

Editors kind regards.

PROCEEDINGS

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Professor BUCKMAN, F.G.S., F.L.S., &c.

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Anniversary Address of the President.

I SHALL endeavour to lay before you a general view of the results of the various physical changes of the earth in past ages affecting the climates of Europe and the distribution of life, especially of plant-life. I am aware of the difficulty of the task, both on account of my own inability as well as the mass of matter to be examined and epitomized into a short address such as this.

Before entering into the subject I beg to congratulate you upon the issue of the second Volume of the Proceedings, which contains useful information on various subjects connected with the natural history and antiquities of our county. The paper by Mr. Clemen-shaw, which goes into the region of chemical geology, will be read with interest, and I hope it is an earnest of future contributions from him. The botany of Holwell, by our Treasurer, is an important addition to this section of our work, and not the least instructive part of the Paper is, the discovery of an isolated calcareous deposit by the presence of *Clematis Vitalba*, a plant which renounces all connection with

the surrounding aluminous beds. The various papers by our Secretary add much to the value of the volume, especially that of the "Worked Flints," illustrated by two plates, with representations of twenty individuals. The plates accompanying the Professor's notes upon the Portisham cromlech are from drawings by the artistic hand of Mrs. Colfox. I must not omit Mr. J. J. Buckman's (the Professor's son) paper upon the genus *Astarte*, with two plates and seven paginal figures, describing no less than fifteen species and three sub-species, many not before described. We hail the youthful contributor with pleasure and joy.

The most ancient condition of the earth consisted in extensive seas; the land was then confined to islands with a special and simple vegetation, while the seas were peopled with various marine tribes, some living, as now, at great depths, some near the coasts, and others between high and low water-mark. The presence of graphite, a nearly pure carbonaceous substance, which occurs in the laurentian beds, prove a vegetation then, in some abundance. The first animal, *Eozoon Canadense* occurs in this very early palæozoic rock. A large alga, *Cruziana* D'orb., of considerable height, with fronds upon a thick cartilagenous stem, grew in the lower silurian seas. The most ancient land-plant known is a fern, *Eopteris Morierei*, somewhat resembling *Cyclopteris* of the coal-measures, but with this difference, the stipes of the frond bear unequal sized and irregularly arranged pinnules; it was found in the

middle silurian, at Angers, in France. The first evidence of a Lycopodiacea occurs in the upper silurians of Canada, *Psilophyton*, Daw, a dichotomous branched plant with slender bifurcating stems proceeding from a horizontal rhizome; the surface of the stem is destitute of scars, but marked with spiral ridges, as if rudimentary leaves. The internal structure of the axis shows loose cellular tissue surrounded by a cylinder of elongated woody cells without distinguishable pores, but with traces of spiral fibres, which point not only to its affinity with the Lycopodiaceæ but especially with the recent *Psilotum*, a genus of club-mosses found in America and Australia. The rhizomata of this ancient plant occur *in situ* in a number of argillaceous beds, in a manner which shews that they crept in immense numbers over flats of sandy clay, which were frequently inundated. The succeeding devonian age produced several new forms of plants which, with few exceptions, generally resemble those of the coal-measures, among which a single species of the genus *Lepidodendron* may be mentioned; also a conifer *Prototaxites*, having spirally-marked cells, characteristic of the genera *Taxites* and *Spiropites* of Gœppart, but differing in the cylindrical form and loose aggregation of the wood-cells. Doctor Dawson found in the devonian beds of the State of New York and Canada, thirty-two genera, and sixty-nine species of plants, comprising *Sigillariæ*, *Calamites*, *Asterophyllites*, the *Lepidodendron*, conifers and ferns of the genera *Cyclopteris*, *Neuropteris*, *Sphenopteris*, also fruits,

Trigonocarpum and *Cardiocarpum* (which latter was thought by Brongniart to belong to a Lepidodendrous plant); but our distinguished fellow-member, Mr. Carruthers, considers it to be a gymnosperm of an extinct type, confined, as far as is yet known, to the palæozoic rocks, and, possibly, to have been the fruit of the Taxinian, *Dadoxylon*. The devonian flora in many respects resembles that of the mesozoic period, and of modern tropical countries more than the carboniferous, which might, possibly, arise from the absence of the wide undulated plains of that period, and, perhaps, from a higher temperature. From the great diversity of the devonian rocks, it seems that during their deposition, Europe was an archipelago, the sea, of course, predominated, and, as far as is known, there were no fresh-water deposits. Gymnosperms and acrogens form the two prominent groups; the former are the lowest of the flowering plants, the latter the highest of the flowerless.

In the succeeding carboniferous age, *Cordiates* appears for the first time; it is a gymnospermous tree of considerable height, resembling the recent *Podocarpus* in its growth, bearing coriaceous leaves several feet long, and fruit analogous to the *Taxineæ*. No less than three hundred and twenty land plants are found in the carboniferous beds; the conditions favourable for their preservation was forest growth, in swampy ground about the mouth of a river with rapid oscillations of level, the coal produced during subsidence being covered over by the sediment brought down by the

river, which, on re-elevation, formed the soil for fresh growths, the alternation being occasionally broken by the deposit of purely marine beds. The coal of this age is mainly confined to countries north of the equator, and was not probably under the influence of extreme heat at the time of deposition. The coal of the oolitic and cretaceous ages belong to the southern hemisphere; the tertiary coal is uniformly distributed irrespective of latitude.

Before leaving this period let us carry our imagination back to its morasses and lagoons, scarcely raised above the sea-level, and encircled by rising ground not worthy to be designated hills, on which hung dank mists, feeding the streams which flowed through the masses of matted verdure. Let us picture to ourselves, the erect naked *Calamite*, the columnar trunked *Sigillaria*, the *Lepidodendron*, the graceful arborescent ferns with their magnificent crowns of leaves, the climbing *Asterophyllites*, all combining to excite admiration, but no lovely petalled flower broke the monotony of this verdant scene; the organs of reproduction were not at that time enclosed in a covered receptacle, but merely furnished with insignificant scales, and no nature-painted petal, which now adorn so large a proportion of plant life, ravished the eye as now with their many coloured bridal garments. The first evidence of a monocotyledonous plant occurs in the lowest beds of the carboniferous series; the spadix of an Aroid, *Pothocites*, was found by Doctor Paterson in the bituminous shades of the coal-measures, near

Edinburgh. The plants of this family are chiefly natives of countries near the Equator, many of them arborescent and of considerable size.

The flora of the succeeding permian age is marked by the preponderance of cycads and conifers, also ferns similar to those now limited to the southern hemisphere. Several plants now disappear. *Sigillaria*, *Asterophyllites*, most of the woody *Equisetaceæ* and *Lepidodendra*, whose cones surpassed in elegance of structure those of the conifer, which they resemble in form, while the cryptogamic organization of their fructification and the separate grouping of the male and female spores approach the recent *Isoetes*, which, as is well known, now only grows at the bottom of lakes. Europe, which was, until the end of this age, an archipelago of islands, gradually became united so as to form a continent. Cycads and conifers continued to flourish; angiosperms, which now comprise more than nine-tenths of living plants, had not then appeared on the earth's surface. The cycads do not differ from those which now grow in the vicinity of the tropics; many of the conifers were of great height, allied to the *Aracaurias* and *Cypressineæ*. *Brachyphyllum*, whose leaves were reduced to simple mammilated scales, are especially distinctive of this period.

At the summit of the Hochmad, half-way up the Blumenstein, (a liassic formation), has been found, a cycad *Zamites gracilis*, Kurr, also two conifers *Widringtonia liassica*, Kurr, and *Thuites fallax*, Herr,

the two first occur with an *Araucarites* in the upper lias of Wurtemberg, with numerous marine animals and algæ. The physiognomy of plant-life was then uniform; no difference seems to have existed from Spitzbergen to Hindoostan, from southern Europe to Siberia. In a comparison of the upper oolite flora with the lower oolite there appear to be several links of affinity, and at the same time wide differences. During the deposition of the purbeck beds, Europe became more decidedly continental by the amalgamation of its lands and the formation of considerable lakes and estuaries. The oolitic seas in Western Europe formed three principal basins, one covering the north-west of France and the eastern part of England, marked by a line running north-east from Somersetshire to Durham; another from Rochelle to what is now occupied by the Pyrenean range from Bigorre to Perpignan; and the third extending from Dauphiné and Provence to the present site of the Alps (which, as well as the Pyrenees, did not rise until a much later period), also Piedmont and Italy. The shores of these seas gradually retired, forming a series of consecutive diminishing circles. At Solenhofen in Bavaria, at Stonesfield in Oxfordshire, and in the purbeck-beds of Dorsetshire and Wiltshire, which stand near the boundary line between the oolitic and cretaceous periods, are large assemblages of insects, cockroaches, beetles, grasshoppers, white-ants, and dragon-flies. Solenhofen has produced a fossil bird, *Archæopteryx macrura* (Owen,) retaining its feathers so perfectly that

the vanes as well as the shafts are preserved. It differs from all existing birds in its long tail, consisting of twenty vertebræ, each of which supports a pair of quill feathers. From the form of the tail, the animal was at first regarded as an intermediate state between a bird and a reptile, until Professor Owen showed that it had no reptilian character. Professor Prestwich has recently discovered in the Kimmeridge Clay the gigantic reptilian Iguanodon, or some closely allied Dinosaur, which has hitherto been thought to have browsed only on the trees and herbs of the wealden and lower cretaceous forests, proving a continuity of land-condition from the upper oolite to the lower greensand period. We now arrive at a very important era of plant-life, namely, the first appearance of dicotyledonous plants, not only in abundance, but in great varieties of forms. Unknown before, they rapidly prevailed, compelling the cycads and conifers to decrease and abandon their hitherto dominant position. The cretaceous fresh-water deposits of Bohemia are rich in fossil-plants, as also those of Moravia, Harz, Saxony, Westphalia; the neighbourhood of Aix-la-Chapelle and of Toulon, have furnished a considerable series of fossil-plants from the middle-chalk, which seem to have grown near the shores of a cretaceous sea. They present a curious assemblage of extinct genera, with some which now only grow within the tropics, and others which are confined to northern Europe. The genus *Credneria* is an example of the first (now only found in a fossil state); while *Hymenææ*,

Pandanaceæ (screw pine), *Aralias*, &c., were pushed south towards the equator. About this period the Palm appeared for the first time ; fossil trunks of trees, with supposed leaf-scars (one of the characteristics of the family) from the carboniferous beds, were at one time thought to be palms, but now ascertained to be cryptogams. The two principal true palms of this period are *Flabellaria chamæropifolia*, Gœpp., represented by a fan-shape leaf resembling *Chamærops*, and consequently allied to the dwarf palmettos, and a palm from a fresh-lake deposit in Austria, and from Provence ; the leaf of which is large, with disunited segments, or only divided towards its edges ; it resembles *Phœnicophorium Sechellarum*, Wendl., which holds a middle place between the fan-shape and the pinnate-leaved forms, such as the sabal and the date. The cretaceous beds of North America contain a large assemblage of dicotyledonous trees with conifers and cycads. Professor Nordenskiöld (now an ice-bound prisoner with a Swedish scientific expedition in the Vega, near Behring Straits, having been overtaken by winter, probably in October, when on the point of completing the North-West passage), found in the peninsular of Noarsoak, Greenland, a *Zingiberacea*, a bamboo, *Arundo Grænlandica*, Heer., and a cycad, *Cycadites Dicksoni*, Heer., perhaps, the last of the family which grew within the polar circle, and several ferns belonging to the tropical order of *Gleicheniaceæ*, also *Palmaceæ*, *Pandanaceæ* and *Dracænæ* ; the dicotyledons comprise coriaceous-

leaved poplars, figs, myrtles, azalias, magnolias, and leguminous plants allied to the *Lotus* among the conifers are *Sequoias* several species of *Cupressineæ* and a *Salisburia*. Monocotyledons, which had been for a long time subordinate and weak, became of some importance. At the close of this æra, there was a large increase of land in the higher temperate and polar regions which materially affected the climate of Europe. The sea at this time still covered the Alpine and Pyrenean area. A few islands were sprinkled here and there indicative of the subsequent line of elevation. Of all rocks of this period no formation is of such great geographical importance as that of the nummulitic; it appears that of more than fifty species of nummulites, described by d'Archaic, there are only one or two species in the other tertiary beds. The nummulitic Sea traversed Europe diagonally, and can be traced through northern Africa, it was largely quarried of old for the pyramids of Egypt, and is met with in Asia Minor, across Persia to the mouths of the Indus; nummulites have been found in Western Thibet in deposits 16,800 feet above the level of the sea. This extensive Mediterranean Sea had an influence of some importance in the introduction of new plants among which is *Sabal major*, a palm of majestic height resembling the *Sabal umbraculifera*, Jacq., of the Antilles, found in all the European miocenes, several *Sequoias*, *Taxodianeæ* and *Libocedrus*, chiefly allied to *Arbor vitæ* (*Thuja*) found now only in Chili and New Zealand. An important

change with regard to animal terrestrial-life, took place at this time, the diminutive marsupial mammals of the mesozoic age were succeeded by large placental herbivors, mostly pachydermous—*Palæotherium*, *Lophiodon*, *Anoplotherium*, and *Xiphodon* with several rodents and bats. The preponderance of these pachyderms in the eocene forests may be accounted for by the paucity of carnivors. The London clays of Sheppey contain fruits and seeds of palms belonging to the recent type *Nipa*, now only found in the salt-marshes of Malacca, the Philippine Islands, and Bengal. We have now arrived at the horizon of the Alum Bay and Bournemouth beds, the latter of which, through the industry of Mr. J. E. Gardner, have yielded a large and highly interesting flora, including *Proteaceæ*, *Dryandræ*, *Stenocarpus*, cinnamon, and other *Lauraceæ*, *Eucalyptus*, azalias, figs, beech, maples, *papilionaceæ*, cactus, aroids, conifers, and ferns, also fruits of *Nipites*, marine shells, a freshwater shell of the genus *Unio*, with shore-crabs, also another crustacean *Callianassa*, which has its living representative, *C. subterranea*, Leach., on the Devon coast attesting the passage from marine, brackish and fresh water. Some of the types are now residents in Southern Africa and India, their association with types of the temperate zone may be traced to an approximation of high land to the seas or lakes into which the rivers carried them. A similar condition of plant-life may now be seen at Teneriffe, which lies at the very threshold of the tropics. Humbolt, in a description of

his ascent to the peak, says he passed five different zones, distinguished by their vegetation, the first being that of the vine and palm, the thermometer standing, at 67° in January, about noon ; the next belt, about 5,780 feet above the level of the sea, consists mostly of forests, oaks, myrtles, olives ; the next zone extends more than 8,000 feet above the sea level, and is a region of pines ; the fourth and fifth zones are covered with the leguminous *Retama* and several species of *Gramineæ*, a few of which and lichens struggle for existence among the volcanic matter at the summit. In the corresponding beds of Puy, in the centre of France, a palm, *Phoenix Aymardi*, has been met with bearing a male inflorescence ; as it belongs to a family chiefly African it gives force to other attested proofs how closely allied is the eocene flora of Europe with that of the neighbouring continent, which its southern extremity touches. The climate of that period was not dissimilar to that of Central Africa, of the present day, subject to intermittent rains at intervals of considerable length evidenced by the meagre, stunted coriaceous trees. The difference of latitude had now a more decided influence upon plants. There was a gradual invasion of cold, which was more intense at one time than another, supporting the theory that there was a glacial period during the eocene as well as the well-attested pliocene age. The succeeding miocene was under the influence of a more humid climate, and its vegetation unfitted for long droughts. In the southern and central parts of France the miocenes are extensively developed.

The calcareous concretes of Brognon, near Dijon, contain unexhaustible mines of vegetable remains, including a large-leaved palm, *Flabellaria latiloba*, met with also near Lausanne associated with ferns, one of which appears to be arborescent, oaks, laurels, a jujube tree, and fig tree. The miocenes are supposed to be represented in England by the lignites and clays of Bovey Tracey, in Devonshire (but, perhaps, the result of Mr. Gardner's examination of the Bournemouth Beds and a correlation of both may relegate them to an earlier geological period), in Ireland by the basalts of Antrim, and of the Giant's Causeway, and the Island of Mull in Scotland. The miocene flora of Greenland comprises more than a hundred and thirty species, of which some fifty-six only are identical with those of the same age in central Europe, and more than half the number do not now grow within ten degrees of the South of Greenland. M. Herr shews that in the flora of the Swiss miocenes about nine per cent. of the vascular plants are homologous to existing species, and of seventy-two species thirty-three live in America, sixteen in Europe, and twelve in Asia, the remaining eleven are scattered about elsewhere. Prominence is given to the Atlantic types by the numerous evergreen oaks, maples, poplars, *Robinia*, *Sequoia*, *Taxodia*, and ternate-leaved Pines, thus the northern hemisphere has played an important part in the distribution of plants, a greater number having migrated from north to south than in the reverse direction, for large assemblages of plants seem to admit of being traced back at some time of their history

to the northern hemisphere. It is remarkable while the eocene flora of Europe was largely Australian in character the miocene has an American facies. The retreat of the great miocene sea and the elevation of the Alps and Pyrenees were the two great events of the pliocene age. The presence of mountain-ranges covered with snow would materially lower the temperature, and had doubtless a considerable influence ; but the glacial state of Europe cannot be accounted for by this phenomenon alone ; it may have been aided, according to Count Saporta, by the diffused sun-light and a densely-clouded atmosphere reducing the contrast between the polar summer and winter, or, according to Professor Geikie, to an alteration of the position of the poles and the winter of our hemisphere happening in aphelion. That a gradual depression has taken place is clearly shown by the norwich red and coralline crags, the latter, which is the older, differs less in the character of its fauna than the other two, as it contains twenty-seven molluscs now living in the Mediteranean and one West Indian species ; thirteen only occur in the red-crag associated with three fresh southern species, while the whole disappear from the Norwich beds, and are replaced by others of a boreal type, sixty-nine of which, out of eighty-one, are still living, and among them are no species of southern latitudes, we may infer, therefore, that the temperature of the sea must have gone on gradually diminishing. In the immediate overlying forest-bed of Cromer which extends along the Norfolk coast for about forty miles may still be

seen the erect trunks of trees attached by their roots to the original soil; these trees are covered by a clay-bed containing thin layers of lignite; between the trunks of the trees and these lignites are found cones of the scotch and spruce firs, the seeds of the yew, the horn wort, *Ceratophyllum demersum*, the seeds of the buck-bean *Menyanthes trifoliata*, the Hazel, *Corylus Avellana* the white and yellow water-lilies, and with them are found the teeth of elephants antiquus and two other elephants, *E. meridionalis* and *E. primigeneus*, hippopotamus, ox, horse, stag, elk, roebuck, *Cervus poligniacius*, *Cervus verticornis*, two species of beaver, narwhal, walrus, a large whale, &c. The vegetation taken alone does not imply a temperature higher than that now prevailing in the British Isles. Half the mammals are extinct, the rest still survive in Europe. The discovery of a glacial epoch, and subsequently that of a mild and temperate climate, shews us that the greater part of the temperate region was buried under ice at one period and that at another, Greenland and the Arctic circle, probably to the north pole, was not only free from ice, but covered with a rich and luxuriant vegetation, when Europe and the contour of its surface must have been much the same as it is now. The geographical range of the fluviatile and land-shells of the pleistocene period, many of them being now confined to Scandinavia, leans to the conclusion that the climate was still very cold, especially in the winter. Of the mammalia the reindeer and the musk sheep now confined within the

limits of the polar circle occur in the pleistocene beds of the valley of the Thames and of the Avon. In France and Germany they are associated with the mammoth and the woolly rhinoceros. On the other hand an elephant and rhinoceros have been found at Grays in Essex, together with a shell, *Cyrena fluminialis*, Moll., now extinct in Europe, but to be met with in the Nile and some Asiatic rivers. The fossil plants of Atanekerdluk, in the Waigate, near Disco, give a most valuable insight into the nature of the vegetation which formed a forest of this age. Captain Ingelfield observed a trunk standing upright surrounded by a closely packed mass of leaves, fruits, and seeds, all in good condition, shewing that they had not been drifted from any great distance. Many of the species have their living representatives ten or twelve degrees below Atanekerdluk. Mc'Clure found a large accumulation of trees ranging from the sea-level to an elevation of upwards of three hundred feet. A cone of one of these trees was brought and found to be an *Abies* resembling *A. alba*. A very different climate to the present must have then existed to sanction the growth of conifers. Captain Belcher brought an *Abies alba*, Möll. from near the narrow strait opening into Wellington Sound, 70° 32' N. lat., 92° W. long. The late Sir William Hooker observed a difference of structure from any conifer with which, in his large experience, he was acquainted, and considered the peculiar condition of an exceedingly cold seasonal climate, where a few short hours of sun succeeded by many of its absence would

intermittently affect the functions of the plant ; hence he accounted for the occurrence of two zones of tissue, on each ray of annual growth, one consisting of the ordinary tubes of wood-fibre with discs common to all conifers, the other consisting of tubes with no discs but covered with spiral striæ giving the appearance of each tube being formed by a twisted band. The deflexion of the currents of the sea, from whatever cause, materially affects the climate of a country coming under their influence ; had not the gulf-stream for instance returned to our shores at the close of the glacial epoch the temperature of Great Britain would now be that of Labrador ; we should be scarcely receiving any appreciable increase of heat from the equatorial region by means of aerial currents, for heated air rising from the equator as soon as it has reached the intense cold of the upper regions soon parts with its caloric. The warmth, therefore, which the south-west winds bring us, is not derived from equatorial zephyrs, but from the great oceanic current which takes its rise in the southern ocean, and passing on north of the equator, imparts its genial influence beyond the boundary of the polar-circle. This current is fifty miles broad and a thousand feet deep, flowing at the rate of four miles an hour. The enormous extent to which the heat of the earth is affected by means of oceanic currents throws some light upon the mystery of geological climates. There is no better instance of climatal effect upon plant-life than the palm ; which dwindles down to a dwarf shrub at its extreme

northern limit, yielding in vigour and stature in proportion to its distance from the equator where it attains a height of two hundred feet, towering over every other tree of the forest. At lat. 43° N. in Europe it can only be recognised by its characteristic foliage. In America its limit is 35° N. lat., being represented by *Sabal Adamsonii*, Guern., a shrub with small leaves, in striking contrast to the lofty *Sabal umbraculifera*, Mart., of the Antilles. A similar degeneration is met with in the southern hemisphere, and in proportion as the distance from the equator increases so does the palm diminish in height, and the trunk become stunted and thickened. In Chili at 36° South lat., the last palm, *Jubæa spectabilis*, Humb., and in Africa at $35^{\circ} 55'$ S. lat., *Phoenix reclinata*, Jacq., grows, whose short axis gives no idea of the magnificent date, which is the type of that family. It is curious, the palm which grows on the highest latitudes of the northern hemisphere has fan-shape leaves, and that of the southern hemisphere has pinnate leaves such is *Kentia sapida*, Mart., which grows in New Zealand at $38^{\circ} 22'$ S. lat.

Let me, in conclusion, say I have laid before you abundant proofs of the great variations animals, and especially plants, have undergone in past ages. There are many missing links no doubt still to be filled up. Every new discovery is a fresh link to bring the organic elements of geological formations, widely apart as to time, in connection with, or part of one great harmonious organic system. The various changes which the earth has experienced through depressions,

elevations, formations of continents, and breaking up of others form one factor, of many perhaps, in bringing about the present aspect of animal and plant-life.





Note on Sandsfoot Castle.

By T. B. GROVES, Esq., F.C.S., &c., &c.

THIS prematurely ruined structure, described by Leland in his well-known itinerary "as a right goodlie and warlyke castle, having one open barbican," dates from no further back than 1539, the year when Henry the VIII. compelled the surrender of the larger monasteries, and when consequent on the vigour of his assaults on Popery, he began to fear a coalition of Catholic sovereigns against his kingdom.

Portland Castle, on the opposite side of the bay, had been built a few years previously, the two being mainly intended to provide protection from foreign cruisers for English ships frequenting the "Roads," and prevent the assembling of hostile navies therein with a view to invasion.

A ground plan of Sandsfoot Castle was published in 1789 by Delamotte, of Weymouth. It appears to be authentic, but from what source he obtained it I am not aware. No good elevation of the castle in perfect state is known to exist, nor is there any adequate description of it in that condition.

As a ruin it has been often engraved, but the artists have usually shown themselves more desirous of attaining picturesqueness of effect than accuracy of detail.

Grose, who wrote during the latter half of the last century, gives, in his "Antiquities of England," the best verbal descrip.

tion we have of it. He says, "The body of the castle is a right angled parallelogram, its greatest length running from north to south. At its north end was a tower on which were the arms of England, supported by a wivern and an unicorn. (These arms, carved in stone, were many years ago removed from the gateway of the castle and affixed to the north wall of the chancel of Wyke Regis church). The north part seems to have been the governor's apartment, and is all vaulted. Near its south end is a lower building, said to have been the gun room; this being broader than the other part of the edifice, forms flanks, which defend its east and west sides, and on the south the front is semi-circular; before there was formerly a platform for cannon. On the east and west sides there are embrasures for guns, and below them two tiers of loopholes for small arms, the lowest almost level with the ground. The north front is nearly destroyed, but the remains of an arch or gateway show that the entrance was on that side. The whole edifice seems to have been cased with squared stones, the walls were thick and lofty, and the buildings, though small, were not inelegant. Since the "restoration" it has been neglected and suffered to fall to ruin. The north, east, and south sides were, at a small distance, surrounded by a deep ditch and earthen rampart, through which, on the east front, was a gate faced with stone, part of which is still remaining."

In this description there are several inaccuracies. The lower building on the south side is not semi-circular, but octangular, its eighth side forming the southern end of the main body of the castle. The ground plan I have referred to shows that five of the sides were pierced for embrasures, three of which pointed seawards, the other two covering respectively the shore to the right and left. The sixth and seventh sides are not fully developed, and were not pierced for cannon; the flanking effect must, therefore, have been produced by loopholes for small arms in the upper story, of which indeed indications are given in Buck's engraving (date 1733).

There is reason also for objecting to his description of the

east and west sides of the main building. The lowest tier of apertures on the west sides are evidently those of windows for lighting the cellar of the castle; the tier next above these are, or rather were, loopholes, but the facing stones having been removed the contraction of the openings that originally existed is no longer apparent. The uppermost tier is simply a range of windows—the places where the iron bars were inserted being plainly visible.

From the east side the cellar received no light, consequently there is one tier of perforations less. On this side was a doorway and four loopholes on the ground floor, and four windows above. I doubt very much whether there were on either the east or west side embrasures for cannon. The ground plan certainly gives a figure of what appears to be a cannon lying in one of the eastern openings, but it must I think be an error, as at the point in question, immediately behind the supposed embrasure is the head of a staircase leading to the cellar. The castle on the land side was in fact very weakly fortified. It relied perhaps for defence in this direction on its ditch and rampart, the latter doubtless furnished with cannon, especially at the bastions at its east and west angles.

The "open barbican" mentioned by Leland is not visible. He must, I think, have inaccurately applied the word to the gun room at the southern end. The term is rightly employed to indicate a port in advance of the main building for the purpose of protecting the entrance gate and drawbridge, if any.

Grose omits to mention the grooves in which slid the portcullis, and which are still visible at the north and principal entrance.

The arrangements of the interior will best be understood after actual inspection, I will, therefore, refrain from describing them.

It is evident that a very large portion of the octagonal gun-room has fallen owing to the sea having undermined its foundation. A large block is now lying on the rocks below, undergoing the gradual disintegration by the action of the waves that has in my time dispersed many still larger fragments. In my father's time, sixty years ago, a carriage could be driven

between the castle and the cliff, and in 1859, if an ancient map may be credited, the castle, surrounded on all sides by a moat, stood in the centre of the field.

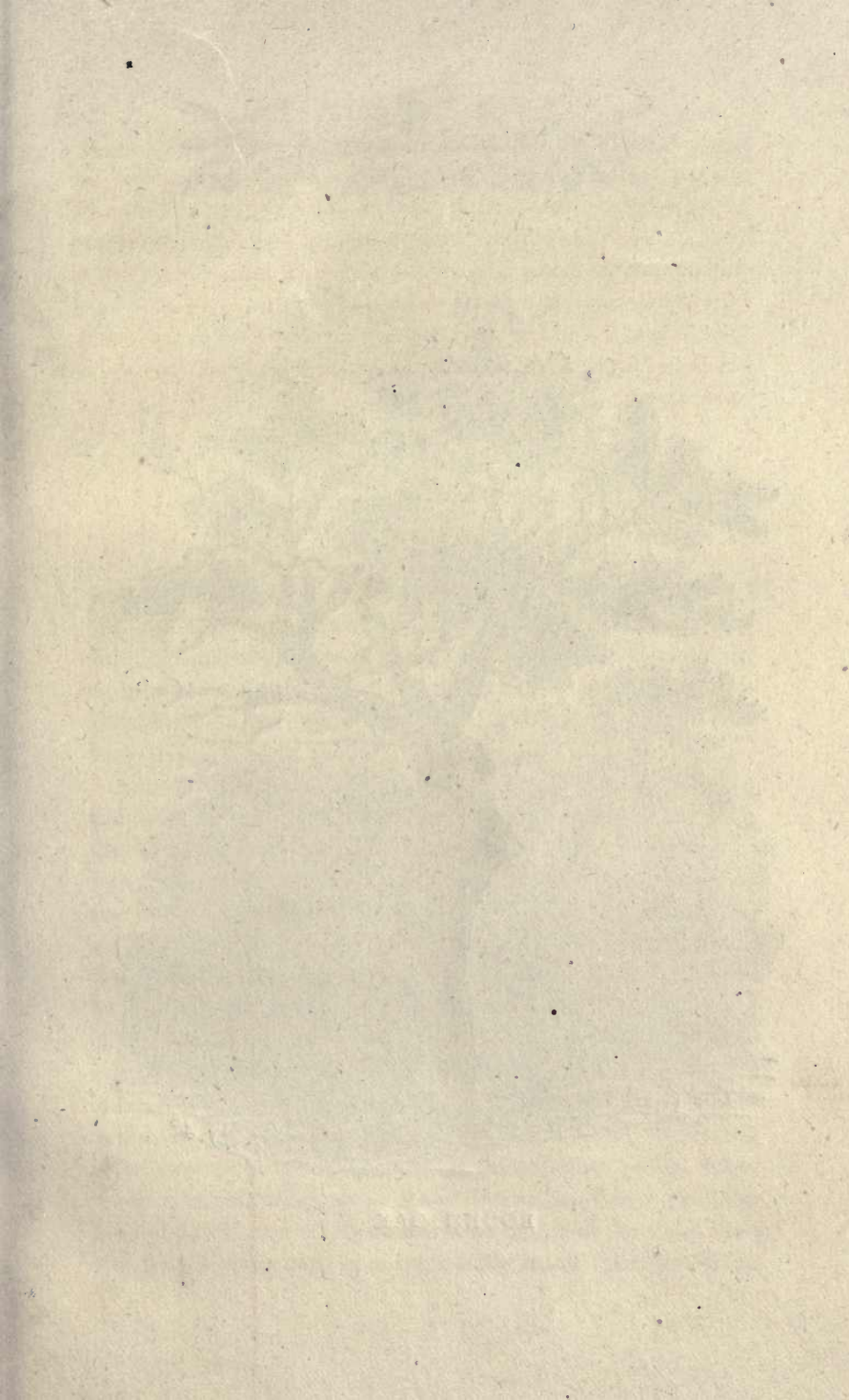
The dilapidated (a word here most correctly applicable) condition of the outer walls is said to have been occasioned by the stones having been torn from their places and carried to Weymouth for building purposes. Two houses in St. Thomas'-street have been pointed out to me as having been mainly constructed out of the spoils of Sandsfoot Castle. One is half inclined to wonder how such a thing could have happened seeing that the building has never passed out of the hand of the Crown. But there were giants in those præ-reform days—at peculation and robbery!

It seems that round shot of stone were used, at least occasionally, for the service of the guns. Some schoolboys, playing about the castle, crawled into one of the large drains that opened on the cliff, and found there a stone shot of some six inches in diameter. A similar shot was found at Portland, and brought to Sir John Coode, who had the curiosity to know whether it was really a shot or only a natural concretion. He therefore placed it under a steam-hammer, and gave it a blow so judicious that it cracked into two exactly equal pieces, when lo! in the centre was found a perfect specimen of a petrified Cardium of some sort. The split shot is to be seen at the Engineer Office, Portland. There can be no doubt I think of the stone being really a shot—its perfect sphericity would seem to prove that—but there is reason to suppose that in order to save labour the ancient artificer had selected a stone already partially rounded, a concretion in fact founded on the shell of the Cardium.

Sandsfoot Castle can scarcely be said to have a history. It must have changed hands again and again during the Civil Wars, but existing records make no mention of any siege whatever—a fact which strengthens my argument that the castle was indefensible on the north or land side. Probably it followed as a matter of course the fortunes of the neighbouring fortified town of Weymouth and Melcombe Regis. The names of some

half dozen of its Governors are known, but no interest would attach to their enumeration. The same must be said of the references, few and far between, to the existence of the castle and its garrison, in the borough archives—archives which are alas in private hands, and probably about to suffer dispersion to the four winds of heaven under the very noses of a body of men whom I fear I must characterise as indifferent to the history of their borough, and more antiquarian in their notions than in their tastes.







BOUND OAK



Bound Oak.

By The Rev. O. P. CAMBRIDGE, M.A.

BOUND OAK, or, in Dorset dialect, "Bound Woak" and "Girt Woak" (Great Oak), stands on the boundary line between the parishes of Bloxworth and Bere Regis, close beside the public bridle path leading from Bloxworth to Bere, through Bere Wood (formerly Bere Forest), over Woodbury Hill.

Although considerably dilapidated, "Bound Oak" is still in a state of vigorous growth, which is, however, chiefly confined to the tolerably complete remaining half of this fine old sylvan relic. In the autumn of 1878 the whole of this portion of the tree was covered with an abundant crop of acorns. The girth of the trunk, at about eight feet from the ground, where the body becomes bipartite, is twenty-two feet six inches, but the whole of the centre is hollowed out by decay, a portion of the wall having also disappeared, leaving a dome-like cavity capable of holding several persons. The total height of the tree is somewhere about fifty or sixty feet. From the side opposite to that shown in the accompanying figure, a very large limb fell about twenty-five years ago. This limb, falling on the Bloxworth side, was taken possession of by my late father, the then Lord of the Manor of Bloxworth; the timber of the fallen limb was for the most part in a remarkably sound condition, of an

exceedingly dark colour, and the greater portion of it prettily mottled.

It is difficult, in the absence of documentary evidence, to estimate the age of "Bound Oak," but it can hardly be less than five or six centuries. In all probability it owes its immunity from the destructive axe, to the fact of its standing so exactly on the boundary between the two parishes as to preclude the possibility of its being meddled with by the landowner on either side without the tolerably certain result of a law-suit.

A lively imagination might easily conjure up many interesting associations and romantic scenes in connection with "Bound Oak," but I am bound to say that no record or tradition of these exists, so far, at least, as I have been able to ascertain. Still, as such undeniably ancestral trees are now few and far between, I have thought that the one under consideration, though devoid of any stirring associations, might be worth a note in the Transactions of the Dorset Natural History and Antiquarian Field Club.





Notes on the History of Shaftesbury.

By The Rev. W. BARNES.



British legend of *Caer Paladr* or Shaftesbury is given in a Welsh *Brut* (chronicle), the "*Brut ab Arthur*," thus—"Ac wedi *Lleon* daeth *Rhun Baladr Bras*, ci vab, ac eve adeilad *Gastell Mynydd Paladr*; a elwir yn awr *Caer Sefton*. Ac yna, tra adeilyt y gaer honno, y bu eryr yn prophwydau; ac yn dywedyd daroganau yr ynys hon." In English—"And after (*King*) *Lleon* came *Rhun*, of the Stout Spear, his son, and he built the castle of Mount *Paladr*, which is now called *Caer Sefton* (put for Shafton); and there, while he was building this stronghold, there was an *Eryr* (eagle?) that prophesied (or foreboded), and gave some prophecies about this island." Eagle's prophecy is given in the *Myvrian Archæology* vol. ii., pp. 124—126. In *Powell's "History of Cambria"* it is said—"Concerning the words of *Eryr* at the building of *Caer Septon*, in Mount *Paladour*, in the yeare after the creation of the world, 3,048, some think that an eagle did then speake and prophesie; others are of opinion that it was a *Brytaine* named *Aquila* (*Eryr* in British) that prophesied of these things, and of the recoverie of the whole ile againe by the Brittaines," and *Eryr* (eagle) is very likely to have been the name of a man, as it often was with the bards an epithet of a warrior. *Rhun* is reckoned

as the ninth king of (all) Britain, his father Lleon Gawr (Lleon, the Mighty or Gigantic,) being the eighth, and his grandfather Brut Darianlas (Brutus Blueshield) the seventh. He, with Rhun, is named by Lewis Glyn Cothi, a bard of the fifteenth century, in an ode to Hywel ab Henri, thus—

“Da ydyw dy ryw, a da yw dy dras;
Dy ran olau oedd Vrutus Darianlas;
Rhan o Doneuan, hyd yn Euas dud;
Rhan Beli, drwy'r brud, a Rhun Baladr Bras.”

In English—

“Good is thy lineage, and good thy kindred;
Thy utmost line was that of *Brutus Darianlas*,
The line of Doneuan, to the region of Euas;
The line of Beli, by the annals, and *Rhun Baladr Bras*.”

Rhun, which means lavish (of gifts; magnificent), was the name of at least two later Princes, one of them of the time of Llywarch Hên, the Prince bard of the 6th century (A.D. 530), who, it seems, had helped him in war. He says in his elegy on Urien Reged—

“Have I not given to Rhun, the praised leader,
A *cantrev*, and a hundred kine?”

A *cantrev* being a political Hundred (of homesteads), a proof, among others, that Britain was marked out into Hundreds ere the Saxons came hither. This bit of history was written in the Brut Arthur (pronounced Breet Artheer) from earlier history, after Saxons had settled at Caer Paladr, as it says “which is now called Septon”—a form of the name Shafton; but it implies that it was not called so in the earlier time when Rhun built it. The guesses at the names of the “Caer Paladr” and of the king, by some old writers, and the shapes in which they have given them, are very queer, and I know not whence they were first taken. Some call the king *Rhudubrasius* or *Cicuber*, and Holingshed gives his name as *Lud*, or *Lud Hudibras*, son of Leil, the eighth king. These names cannot be in their true Welsh shapes, whatever they may be. Some write the British name of Shaftesbury as *Palladur* or *Pall-a-dour* for “Pal-a-dwr,” which they read “the Waters of Pallas,” on the understanding

that the British Shastonians worshipped Pallas and had a temple of Pallas. If Pal meant Pallas, then "Pall-a-dwr," which should be "Pal-a-ddwr," would mean *Pallas and Water* (nonsense) not the waters of Pallas: or if you took it as Pal-y-dwr it would mean Pallas of Water (nonsense) and of what "water?" That of the Motcombe spring? There is not, however, in Welsh lore any token of a worship of Pallas. Now, I do not believe that a bird, *Eagle (Eryr)* foretold with a voice of words, but *Eryr* (eagle) might be the name of a sooth-sayer, or some one might have taken an augury from an eagle, but the stronghold must have been built by some one, and his name might have been "Rhun Stoutspear," and such a name sounds of an olden time. Anno Mundi 3048 sounds too early for a ready belief in its truth; but then to see how many years it was ere the year of our Lord we should learn how far back the Bardic lore put the creation of the world. But the name *Caer Paladr* is marked as the true name by the Saxon name, *Sceafstesbyrig*, which is simply the British name turned into Saxon, for *Byrig* is *Caer*, and *Sceaft* is *Paladr*, and as the Saxons must have heard the name from British lips it is pretty clear that they found here a British population, and that their abode is most likely to have been called "Caer Paladr," from the name of the king. A.D. 871 King Alfred came to the throne, and he founded at Shaftesbury an abbey or a nunnery, and set over it as the first abbess his "medemesta-dehter," as he calls her—his midmost daughter, Ethelgede. By his will he leaves to his midmost daughter the Home (Manor) at Clear (King's Clear, Hants), and at Cendefer (Chilton Candofer). He gives "thare medemesta dehtere thare ham aet Clearan and aet Cendefer." He also leaves to each of his three daughters a hundred pounds, "and minre y'ldstan dehter and there medemestan" (Ethelgede) "and thaere gingstan aelcum an hund pund." (To my oldest daughter, and to the midmost, and to the youngest to each a hundred pound), and in those days when a pound was a pound weight of silver, and silver was of a far higher worth than it now is, this was a fine legacy. Asser, Alfred's learned friend,

writes of the Shaftesbury Abbey:—"Another monastery also was built by the same king (Alfred) near the eastern gate of Shaftesbury, and his own daughter, Ethelgifa, was placed in it as abbess. With her, many other noble ladies dwell in that monastery." Here we see that Shaftesbury was a walled and gated town ere Alfred built the monastery. Asser calls Ethelgede *Ethelgifa* (Saxon *Ethelgifu* or *Ethelgeafa*, Noble gift), but I will stand by the will of King Alfred. As Abbess of Shaftesbury there *Ethelgede* lived and died, and was buried, and, as we may believe, in the ground of the Abbey Church. King Alfred had land at Sturminster Newton, and left it with other lands to his youngest son. His will says:—"And pam gingran minam sunathaetland aet Sturemynster." The abbey lasted under many noble abbesses till the Reformation, when it was sold and soon demolished. Henry VIII. sent many of the finest buildings of England to the wrecker of works of art. From a princess who was buried at Shaftesbury let us glance at a prince whose body was received by its abbey—Edward, the so-called martyr, though in the true Christian meaning of the word, martyr he was not. Edward was the son of Edgar, and was stabbed at Corfe Castle from the bad will of his stepmother, Elfrida, whom his father had wedded A.D. 965. The Saxon Chronicle says, under the year A.D. 978, "Her wearth Eadweard cyning ofslegen on aefentide, aet Corfes geate; and hine man tha bebyrigde aet Wareham, butan alcum cynelicum worthscipe"—"Here was King Edward slain at eventide at Corfes gate, and they then buried him at Wareham without any kingly honour." A.D. 980 Aelfere, Edward's ealdorman, took his body at Wareham and bore it with great honour to Shaftesbury, where it was laid in the Abbey. "A.D. 980 Aelfere, Eadweardes ealdorman, gesette his lichoman aet Waerham, and geferode hine mid mycelum weorthscipe to Sceafstesbyrig." By Corf's Gate, where Edward was slain, we are not to understand the Gate of a Castle, but the Gap in the hill, through which runs the Corfe stream. Edward the Martyr was of the kin of King Alfred, and thence we can understand why his body was brought from Wareham to the

Abbey of his good forefather and of the Abbess, his honoured daughter Ethelgede. In the monastery was a chapel called St. Edward's Chapel, in which most likely was his tomb, and a church was afterwards built to his name (St. Edward's) in the town. In the year 1035 the Danish King Cnut (or Canute as our books mostly call him) died at Shaftesbury and was buried at Winchester, then the capital of Wessex and England. William of Normandy made Lanfranc Archbishop and so many Norman clergymen were thrust upon the church; and on looking over the names of Abbesses, which are given in the "History of Dorset," I see that, whereas, down to the Norman Conquest, 1066, the names of the Abbesses are Saxon, we find that soon afterwards Norman names came forth—1107, Cicilia, daughter of Robert Fitz Hamon, Amicia Russell (Roussel), Agnes de Feriers, Margaret Auchier. That a British population were found at Shaftesbury at the settling of the Saxons, and dwelt on beside them, we may well believe. The laws of King Ina of Wessex, 688, show clearly that, in his time, Britons of sundry ranks, free as well as unfree, were living in Wessex under his law. Now Shaftesbury has had 12 or 13 churches—1, St. Mary (the Abbey); 2, S. Peter; 3, Holy Trinity; 4, S. Lawrence; 5, S. Martin; 6, S. Andrew; 7, S. Rombald, now in St. Peter's Parish; 8, S. James; 9, All Saints'; 10, S. Edward; 11, S. John; 12, S. Mary, now in S. James' Parish. Why should Shaftesbury have had so many churches? and Sherborne, an old Saxon town, till of late only one? It is markworthy that our cities which were British or Roman and that had a British population at the incoming of the Saxons have seemingly had more than enough of churches. Mr. Kerslake, some time ago, caught a glimpse at Exeter of an historical truth that there were for a time two quarters, a British and an English quarter. When the Saxons became Christians, as the Britons were long ere the coming of Hengest, they did not go into communion with the Britons, and built themselves churches, and so there were British and Saxon churches, two sets. But what clue is there to the British churches, as such, and not Saxon ones. The dedication, as that of

S. Petroc's Church at Exeter, Petroc being a purely Welch saint. Of the dedications of olden fanes at Shaftesbury I think that St. Martin, St. Laurence, and St. Mary (the small one) may be of British foundation. St. Martin was a Gaulish, and so a Celtic saint. There was once, by the History of Dorset, a small free chapel of S. Michael, a common Celtic dedication, as that of S. Michael's Mount, Cornwall, and in Brittany. There are in Wales more than twelve parishes, or hamlets, of the name Llanfihangel "Michael's Church," and several other dedications to St. Michael in Cornwall. St. Michael's Chapel, on the Tor, at Glastonbury, holds, I can believe, the place of a British dedication, for Glastonbury (Ynys avallon) was a holy spot with the Britons. S. Laurence may be a Roman dedication brought to the Britains by the early missionaries, or it may be Norman. It is not a Saxon one. The foreboding of Eryr was that the Britons, after a loss of much of Britain, should again have sway over the whole of it, and I want to ask whether, if the Prince of Wales should become King of Britain, "Unben yr ynys Prydain," this prophecy will not be fulfilled? As we walk down on the site of the abbey and about the olden streets and nooks of Shaftesbury we may well say to ourselves, "Lightly tread, tis hallowed ground."

DURNSETI.

I am thankful for the kindly attention which the Dorset Field Club gave to my paper at the Shaftesbury meeting, and am glad that Mr. Kerslake confirms my opinion as to the British population in Dorset, and I fully believe that he is right as to the "Durnseti" for "Dunseti." Dorset, as is shown by Saxon charters, as well as by earlier writings, was on Saxon lips Durnsaet or Dornsaet. King Alfred's Will also affords a clear token of a two-kinned population in our south-west of Britain in his time. He gives to his youngest son the land at "Dene" (now Dean) and at "Meone" (Meon, Hants), and at "Ambresbury" (Amesbury, Wilts), and at "Deone," and at "Sturemynster"

(Newton), and at "Gifle," and at "Cruaern" (Crewkerne), and at "Hwitan-cyrcan" (Whitchurch, Dorset or Hants), and at "Axanmuthan" (Axmouth), and at "Braneescumbe" (Branscombe) and at "Columtune" (Columpton), and at "Twyfyrd" (Twyford), and at "Mylenburnan" (Milborne, Dorset, or Somerset), and at four other places, all which lands lay between the east side of Hants and Cornwall. Then he says "That is all that I have in 'Wealcynne,'" but "Triconscire" (Cornwall)? "Wealcynne" meaning "British kin" or British race, for the Saxons called all the Britons Wealas (foreigners), though we now confine the name "Wealas," or "Wealisc" to the Cymry (the Welsh). From this word we have the word "walnut," in Dorset "welshnut," or foreign nut, as brought from abroad. Here, then, we learn from King Alfred's own words in his will that Wessex was yet called "British kin," although he had land in it. The mention of the battle of "Ethanduna" by the Rev. J. J. Reynolds has brought to my mind a question at one time not clearly answered—Where was Ethandun? Ethandun would mean Furzedown or Furzydown, which might help to mark the spot by a down that would have been furzy in the time of King Alfred.





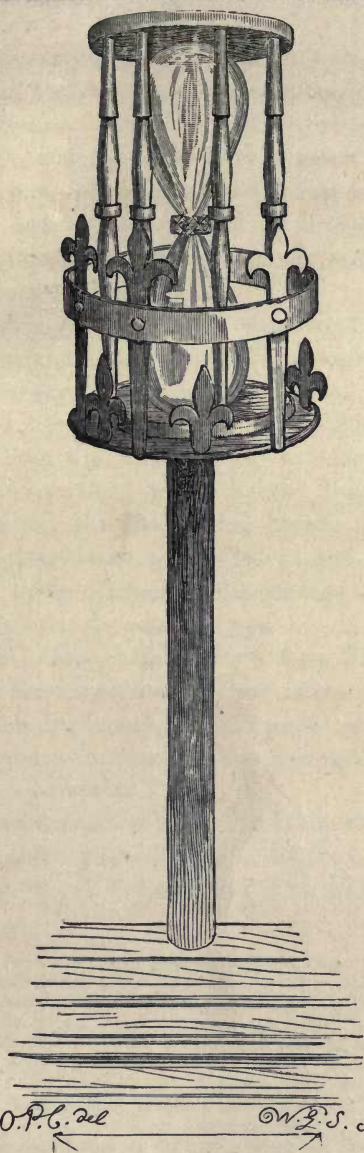
On an Ancient Hour Glass and Stand

IN BLOXWORTH CHURCH, DORSET.

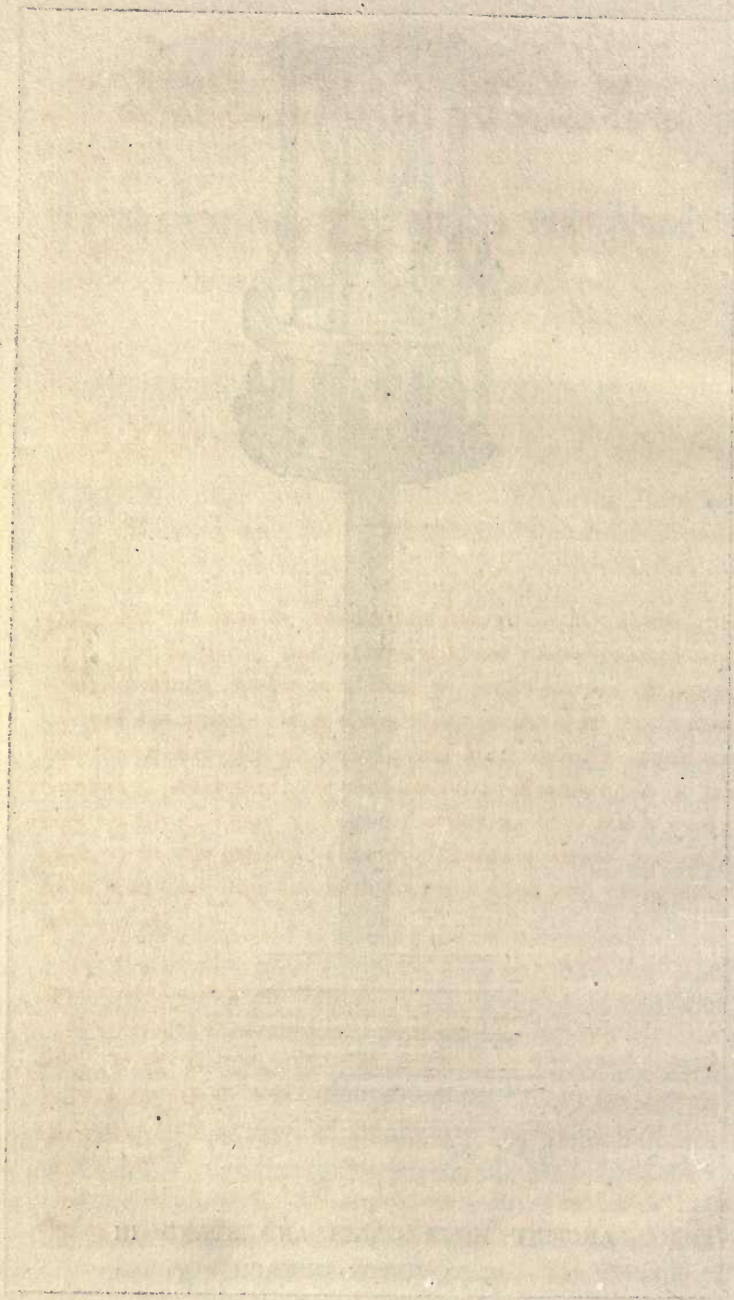
By the Rev. O. P. CAMBRIDGE, M.A.

WHEN, after the Reformation, preaching became obligatory upon the clergy, it is said that Hour-glasses were very generally placed in the parish churches to regulate the length of the sermon. If this be so it is remarkable how, almost completely, all traces of this Regulator have disappeared! The length of the sermon was intended to be limited to *one* hour! but we are all, probably, familiar with the old story of the Divine who used to treat his congregation to "one turn more" of the glass. In fact two, three, and even four hours are said to have been not an unusual length, entailing "turn" upon "turn," on the principle we may suppose that "one good turn deserves another." Under such an infliction it would not be unintelligible that congregations (like the old lady's servants roused from sleep at an unseasonable hour by the crowing of the cock) should, in some way, have connected the infliction with the so easily turned Hour-glass, and thus have almost universally compassed its destruction.

I have heard of no more than four or five churches in which the Stand alone remains—Curland Church, near Buckland St. Mary, (in which I have myself seen it), and Holwell Church, near Sherborne, are two—but no information has reached me of any church, excepting my own at Bloxworth, in which both Stand and Hour-glass are still in existence. It is a rough drawing of these that I now place before you. The Stand is of



ANCIENT HOUR GLASS AND STAND IN
BLOXWORTH CHURCH.



wrought iron, ornamented with *fleur-de-lys*, and fixed upon a single iron upright, or stem; the workmanship is rather rude, but bold and effective. The frame of the Glass is of wood rather roughly cut, and the Glass is of a greenish hue. The whole height of Stem, Stand, and Glass is near about two feet, that of the Glass and its frame about 10 inches. Traces of colour, still remaining, show that it was originally decorated; but this has mostly worn off.

About eight or nine years ago, while the chancel of the church was under restoration, the old Parish Clerk, concerned for the safety of the Hour-Glass, placed it in a chest in which the Church Bible and Prayer Book were kept. Afterwards, forgetting that the Glass was there, he one evening replaced the Bible (weighing about 22lbs.) rather heavily upon it, and with an unfortunate result; the Glass being broken in two at the narrow part. A glass-blower was called in and re-united the parts, but in so doing obliterated the passage for the sand, which has now consequently ceased to run.

A duplicate of the Glass, handed down from Parish Clerk to Parish Clerk from time immemorial is now in my possession.

In Hook's Church Dictionary, 7th ed., p. 375, it is mentioned that "in some churches the Stand for the Hour-glass, if not the instrument itself, still remains."

Believing, therefore, that the Stand and Glass now under consideration are unique, I have thought it might be not wholly without interest to some of the members of our Society, to bring it to their notice.

Since the report of the above was published in the local journals, I have received communications from several persons informing me of the existence either of the *Hour-Glass*, or the *Stand* in the following Churches, viz., *Inkpen, Co. Berks*; the *Stand* alone. *Cockerham, near Lancaster*; "the Glass without the Stand, now used to time the Ringers in the Belfry." [Rev. T. Archer Turner]. *St. John Baptist's Church, Bristol*; *St. Alban's, Wood-street, London*; and *Brooke Church, Norfolk*, "contain *Hour-Glasses*." [R. B. Prosser, 31, St. Paul's Road, London, on authority of "A Handbook of English Ecclesiology"—Cambridge Camden Society (Masters, 1847), where many places are mentioned as still preserving the *Stand* alone]. At *Stoke d'Abernion, Surrey*, "a very curious *Stand*." [R. B. Prosser]. *Hurst Church, Co. Berks*, "the *Stand* alone, circular, and elaborately painted." [T. Archer Turner]. *Ellingham Church, near Ringwood*, also retains the *Stand*. [Frederic Fane.]



The Morel.

By Professor BUCKMAN, F.L.S., F.G.S., &c.

THIS fungus is described as follows by Mr. Berkeley:—
“MOREL, the common name of *Morchella esculenta* L., which, under a variety of forms occurs in various parts of the world. It is occasionally plentiful in this country, but the greater part of what is sold by the oilmen comes from Germany. A large quantity is collected in Kashmir. As it dries very readily and may be kept for some time it is much used by cooks to flavour gravies. It is also dressed in various ways when fresh, and makes an excellent dish if stuffed with finely minced white meat.

When plentiful it may be advantageously employed instead of mushroom to make ketchup.

Morels are particularly fond of burnt soil, and the collection of them is so profitable to the peasants in Germany that they were formerly in the habit of setting fire to the woods to encourage their growth, till the practice was made punishable by special law*.

In a recent short tour in Germany we frequently met with the morel at Table d'Hôte, one dish at Mayence was very satis-

*The Treasury of Botany, p. 755.

factory, it was called "Kalbs Roulade Morschel Sauce." For myself I may say that I am very fond of the morel, and have eaten them cooked in various ways, and especially according to the recipes of Mr. Cooke.†

Some of the best I have met with were found in Oakley Park, Cirencester, where, year after year, I got a supply from beneath a cluster of fir trees. Whether they grew after the burning of wood, in the German fashion, I am unable to say.

I meet with every year on a sandy hedge-bank at Bradford Abbas, and for some years the specimens were as near as may be of the size I have figured it, but last year, on the same hedge bank—and this year the same—some enormous specimens have been found, and, upon sending a sketch to Mr. Worthington Smith, he concluded that it was an example of *Morchella crassipes*, Persoon, and he sent me a tracing of one he had figured under this name in the "Journal of Botany," vol. vi., 1868.

I have since had large and smaller specimens, *i.e.*, the *M. esculenta* and *M. crassipes* forms sent to me by the Rev. R. Messiter from Caundle Marsh, and last year and to-day by C. W. Dale, Esq., from Glanvilles Wootton, and have partaken of their them both in the large and small state, and can pronounce qualities as being much on a par, the quality depending more upon the condition in which the fungus is obtained than upon its size; it, anyhow, in as far as a satisfactory result of fungus as food is concerned, will depend more or less upon the cook.

From these remarks, then, we cannot admit the two species, *M. esculenta* and *E. crassipes*, but incline to the opinion that the latter is but a large specimen of the former.

Anyhow, I recommend these fungi as a luxury—they are agreeable and wholesome—highly digestible, and nutritious. Where known, as on the Continent and in good houses in England, they are understood and appreciated, though we can well understand that under the name of "Toadstools and Cankeroons" they are destroyed by rustics as though,

†See a plain and easy account of British Fungi, p. 187.

by so doing, they were conferring a boon upon society. Let us, however, hope that increased knowledge upon their nature and qualities will end in these being appreciated as delicacies with us as they most certainly are both in France and Germany.





The Finding *Terebratula Morièrei*

AT BRADFORD ABBAS.

By A. U. KENT, Esq.



R. DAVIDSON, in his paper on the *Brachiopoda* of the Inferior Oolite of Dorset, described about 40 species, of which most of them occur at Bradford Abbas.

It was, however, subsequently reserved for Mr. Walker to add a new-species in *Terebratula Morièrei*, upon which he founded a very valuable paper to the Geological Magazine of December, 1878, and from which we copy the following notes:—

“I picked up this specimen from the horizon of the *Rhynchonella parvula*.”

“It belongs to a small group of which it is the earliest representative, followed in the fullers earth by the *Ter. reticulata*, and the closely-allied or identical *Terebratula hybrida*, and in the Great Oolite by *Terebratula coarctata*.”

This specimen has been figured from France, but not from England. Mr. Stephens, however, was so fortunate as to find a single specimen at Bradford, and Mr. Walker another afterwards, and it fell to my lot the other day to meet with two specimens, and these four are at present the only ones known to English

*Walker, in the Geological Magazine, December, 1878.

Geologists † and one of these specimens I have been so fortunate to find is the largest of the series. It is ten lines long and seven broad, in which it differs from *Terebratula coarctata*, which is usually as broad as it is long.

The *Terebratula coarctata* is remarkable for presenting both longitudinal and transverse lines; whilst *Terebratula Morièrei* has transverse lines with only a slight indication of longitudinal striæ.

These fossils occur in a thin band of marl, which separates the ammonite bed from the upper freestone; and in getting the stone this is thrown aside in spoil heaps, and the *Terebratula* in question, with several other delicate fossils, are exposed; and, therefore, it is not improbable that a careful search will enable us to find fresh specimens. At the same time it can only at present be considered as very rare ‡

The following figures will well illustrate the forms of the *Terebratula Morièrei* and *Terebratula coarctata*.* The former being now figured as British for the first time.



Terebratula Morièrei natural size; *a*, Dorsal view; *b*, side; *c*, ventral ditto; *d*, an enlarged portion showing the lines and dotted markings.



† Since the above paper was read three or four other specimens have been found in the Bradford Abbas quarry.—EDITOR

* Our drawings are from a specimen in the cabinet of Professor Buckman, presented by its finder, A. Kent, Esq.—EDITOR.

Terebratula coarctata natural size; *a*, Dorsal view; *b*, side view; *c*, ventral ditto; *d*, an enlarged portion with the different markings.

We copy the following description of this interesting shell from the annals of Natural History for 1852, Vol. IX. (second series, p. 256, pl. xiv., f. 3), by Thos. Davidson, Esq., F.R.S., &c.

TEREBATULA MORIEREI, Deslongchamps.

Shell inequivalve subpentagonal, longer than wide; valves convex, with a deep, longitudinal, angular sinus or depressions, so that the junction of the two sinuses in front, a deep, angular notch is produced; beak rather short, recurved and truncated by a largish circular entire foramen; ridges well marked, leaving between them and the hinge a well-defined space; area valves ornamented by numerous squamose concentric, projecting imbricated ridges, regularly and closely covering all the surface of the shell. Loop unknown most probably short. Structure perforated. Length 9, width 8, depth 6 lines.

This curious form of *Terebratula* was discovered by M. Morière, at St. Honorine des Perthes, near Port-en-Bessin in Normandy, in beds named by M. de Camont Calcaire marneux de Port en Bessin, which according to M. Deslongchamps, correspond to the inferior Oolite of Caen. This shell having been presented for M. Deslongchamps' examination he at once perceived all its remarkable distinctive characters and forwarded his notes and illustrations (fig. 3 of our plate) requesting me to publish the species, which is dedicated to M. Morière, the discoverer.

Terebratula Morierei cannot be confounded with any other jurassic form; at first sight it bears some resemblance to *Terebratula coarctata*, but the deep sinus in both valves and the concentric squamose ridges at once distinguish it.



The Occurrence of *Terebratula Morierei* in England.

By JOHN FRANCIS WALKER, M.A., F.G.S., &c.

NOTE.—The following paper is so important in connection with the geology of this district that we have great pleasure in presenting it to our readers in its entirety. It is from the pen of our friend and former pupil, J. F. Walker, Esq., M.A., F.G.S., &c., and is extracted from the *Geological Magazine* for December, 1878.

THE EDITOR.

Bradford Abbas, September 29, 1879.



VALUABLE paper by T. Davidson, Esq., F.R.S., appeared in the "Proceedings of the Dorset Natural History and Antiquarian Field Club" for 1877, "On the species of Brachiopoda that occur in the Inferior Oolite of Bradford Abbas and its vicinity." Since then, during a recent visit to this locality, I have added a few species to this list, including two which have not been discovered in England before. I propose to give a short account of the species, and also a table showing the relative distribution of the Brachiopoda in the Inferior Oolite and Fuller's Earth deposits at Cheltenham and France, compared with this district.

The most important discovery is that of the well-marked species *Terabratula Morièrei*, which has hitherto only been found in France. It was first described and figured by Mr. Davidson in the Annals of Natural History for 1852, vol. ix. (second series), p. 256, pl. xiv., fig. 3 and *a*, *b*,—the M.S. name of *Terebratula Morièrei* having been given to it by Deslongchamps after its discoverer M. Morièrè. It was afterwards described and figured by E. Deslongchamps in 1857, "Catalogue descriptif des Brachiopodes du système Oolitique Inférieur du Calvados," p. 37, pl. iv., fig. 6, *a*, *b*; and in 1837, in the Paléontologie Française Terrain Jurrassique, Brachiopodes, p. 244, pl. lxxv., figs. 1-8. It is a very rare species, having been found in France in only one locality, Ste. Honorine des Perthes (Calvados), in the white Oolite of Port-en-Bessin, which contain *Terebratula Phillipsii*, Morris, and *Rhynchonella plicatella*, Sow.; these species occur with it in England.

There appears to have been some doubt whether in France this species had been found in position, or in a loose block which might have fallen from the Great Oolite above. M. Deslongchamps regarded it as an Inferior Oolite fossil, but the finding of this species settles the questions with regard to its age, as no Great Oolite occurs in the quarry from which I obtained this specimen.

Whilst examining the well-known quarry at Bradford Abbas, on the farm of Prof. Buckman, I picked up this specimen from the horizon of *Rhynchonella parvula*, E. Desl., but did not recognise it until I commenced to clean it; it corresponds in all respects with the figured specimens, showing the deep sinus in both valves and peculiar concentric projecting imbricated ridges which well distinguish this species. It belongs to a small group, of which it is the earliest representative, followed, in the Fuller's Earth rock, by *Terebratula reticulata* and the closely-allied or identical species *Terebratula hybrida*, and in the Great Oolite by *Terebratula coarctata*. The specimen is about the size of figure 7 in pl. 65, Pal. Franç. Brachiopodes Jurassique. It is well preserved, both valves being perfect. I also obtained from the

LIST OF BRACHIOPODA—continued.	SOMERSET AND DORSET.		CHELTEN- HAM.		FRANCE.	
	I.O.	F.E.	I.O.	F.E.	I.O.	F.E.
<i>Terebratula provincialis</i> , E. Desl.					c	
<i>curvifrons</i> , Oppel			c		r	
<i>Morierei</i> , Dav.	r				s	
<i>curviconcha</i> , Oppel						r
<i>fulgia</i> , Oppel						c
* <i>Württembergica</i> , Oppel (Germany)						
* <i>omalogastyr</i> , Hehl Ziet. (Germany)						
<i>Waldheimia emarginata</i> , Sow.	r		?		c	
<i>Waltoni</i> , Dav.	s				c	
<i>subbucculenta</i> , Chap. et Dew	r				c	
<i>ornithocephala</i> , Sow.		c				c
<i>Cadomensis</i> , E. Desl. ...		s	r			c
<i>Hughesii</i> , Walker						c
<i>carinata</i> , Lamarck	c		r		c	
var. <i>Mandelslohi</i> , Oppel = <i>W. carinata</i>						
<i>alveata</i> , Quensted	s		c		c	
* var. <i>Blaket</i> , Walker (Yorkshire)						
<i>Meriana</i> , Oppel	c		c		c	
<i>Leckenbyi</i> , Walker			r			
<i>cardium</i> , var. <i>Leckhamptonensis</i> , Walker	r		r			
<i>Anglica</i> , Oppel	c					
<i>bullata</i> , Sow.		c				?
<i>Megerlia Munieri</i> , E. Desl.					r	
<i>Terebratella bivallata</i> , E. Desl. ...					c	
<i>sulcifrons</i> , Benecke					c	
<i>Rhynchonella frontalis</i> , E. Desl.					r	
<i>Wrightii</i> , Dav.			r		c	
<i>plicatella</i> , Sow.	c				c	
<i>subtetrahedra</i> , Dav.	c		c		c	
<i>subdecorata</i> , Dav.	r		s		?	
<i>quadruplicata</i> , Zieten			c		c	
<i>Lycetti</i> , Dav.			c			
<i>cynocephala</i> , Richard	r		c		r	
<i>ringens</i> , Herault	c				c	
<i>subringens</i> , Dav.	r					
<i>Oolitica</i> , Dav.			c			
<i>Forbesii</i> , Dav.	c					
<i>subobsoleta</i> , Dav.			c			
<i>angulata</i> , Sow.			c		c	
<i>subangulata</i> Dav.	s		c			
<i>Smithii</i> , Walker		c				?
<i>Tatei</i> , Dav.			s			
<i>parvula</i> , E. Desl.	s				c	
<i>Stephani</i> , Dav.	r					
<i>spinosa</i> , Sow.	c	r	c		c	
* <i>Crossii</i> , Walker (Lincolnsh & Yorkshire)						
<i>senticosa</i> , v. Buch.	r				c	
* <i>acuticosta</i> , Hehl Zieten (Germany)						
* <i>Stiufensis</i> , Oppel (Germany)						

quarries at Half Way House a specimen of *Rhynchonella subdecorata*, and one or two specimens of *Rhyn : ringens* unusually large for English specimens. Also three specimens of a *Waldheimia* which appears to be *Waldheimia subbucculenta*, Chap.

et Dew., and probably the same as the species figured, but not named, by Mr. Davidson in his paper on the Dorset Brachiopoda, pl. iii., figs. 14-15. *Waldheima subbucculenta* is stated to occur in France in the lower part of the Fuller's Earth, but probably what in England would be called the upper part of the Inferior Oolite. It is a species which is closely allied to *W. Waltoni*, Dav., and somewhat resembles *W. indentata* and *W. perforata* of the Lias; *W. humeralis* of the Kimmeridge; and *pseudojurensis* of the Neocomian. It is a long narrow, flat, shell tapering towards the beak and front margin, foramen small, beak ridges well defined, and a dark line on the smaller valve indicates the presence of a septum, showing that the loop was long. It will be figured with the other species in the appendix to Mr. Davidson's supplement to his great work on Jurassic Brachiopoda.

In a quarry near the church at Misterton, near Crewkerne, I found a band of clay lying on the top of the Inferior Oolite stone, containing numerous specimens of a variety of *Waldheimia Meriana* associated with *T. decipiens*. It is probable that some of the specimens found in this district, referred to *T. Eudesii*, Oppel, may belong to *Terebratulula conglobata*, Desl.

I have thought it necessary, in drawing up the preceding table, to give the species found in the Fuller's Earth as well as those found in the Inferior Oolite, as these beds are closely connected, and the division may have been drawn differently in France and in England.

Remarks.—The specimens which occur at Dundry are identical with those in the Sherborne district; but the small shells *Thecidea*, *Zellania*, etc., have not yet been found in the latter locality, but will be sought for the next time Prof. Buckman's quarry is worked for road-metal. Several *Thecidea*, etc., and more *Rhynchonellæ* may occur in France, but as these have not yet been described in the *Paléontologie Française*, the list may be incomplete. *Terebratulula maxillata* and *Rhynchonella concinna* have been stated to occur in the Fuller's Earth of Sapperton Tunnel, near Cirencester, but a blue band of the Great Oolite was cut through in making the tunnel, and the fossils from it

were mixed with those from the Fuller's Earth, being nearly the same colour. It will be observed that the species peculiar to the Oolitic Marl of Cheltenham district, as *Rhyn. Lycetti*, Dav., *Rhyn. subobsoleta*, Dav., *Waldheimia Leckenbyi*, Walker, *Terebratula fimbria*, Sow., *Terebratula submaxillata*, Dav., etc., are wanting both in the Dorset district and in France; and that several species, as *Rh. ringens*. Herault, *Rh. parvula*, E. Desl., *Rh. plicatella*, Sow., *Rh. senticosa*, v. Buch., *Waldheimia subbucculenta*, Chap. et Dew, *W. Waltoni*, Dav., *W. emarginata*, Sow., *Terebratula decipiens*, E. Desl., *T. Ferryi*, E. Desl., *T. Morièrei*, Desl. and Dav., *T. Stephani*, Dav., *T. sphaeroidalis*, Sow., occur in France and Dorset and Somerset, and not at Cheltenham. Probably some Palæozoic barrier separated these two areas during the deposits of these zones, and the exact equivalents may not be able to be found on comparing the different horizons of the Inferior Oolite of these districts. The Oolite marl being absent in France and Dorset; the bed containing *Rh. ringens* has not been found at Cheltenham. It is also worthy of remark that the Brachiopoda of the other Oolitic strata, and the Lias of Somerset and Dorset contain several species which do not occur in other parts of England, but are common in France.





The Tout Hill, Shaftesbury.

By the Rev. W. BARNES.

TOUT HILL, Somerset 'Toot.' The meaning of *Tout* or *Toot* has often, I believe, been asked or sought, and some writer has found a religious mystery in it in the belief that the *Touts* were chosen hills for the worship of a Celtic God, *Teutates* or *Mercury*. I cannot make out of that word, in Celtic, anything but *Tew-tat*, in Welsh of our time *Dew-dad*—"God the Father;" the one God, not Mercury. The *Touts* were pretty clearly spy-hills or outlook-hills. The old English word *Toten*, or *Tote* is to spy, to look, out. "To *toten* all about" "To spy all about," Peres, the ploughman's Crede, about A.D. 1394.

"How often dyd I *tote*
Upon her prety fote (foot)."

(John Skelton, A.D., 1522, edited by Skeat).

And we have the word still in use in the verb "To *tout*," and *Touters* are sent out from inns, or to steamboats, and, I believe, from shops, to *tout*, look out or spy for customers. There are two, if not three, *Touts* in Portland, and we have *Nettlecombe Tout*, and there is one called *Cleve Tout*, in Somerset, and most likely *Tothill* or *Totton* may be by a *tout*.

In some old depositions which I have on trials for witchcraft it is said by a witch that she and others of her craft sometimes met by night near *Marnhull* and on *Leigh Common*, and, ere the doing of some stroke of witchery, they had the warning "Tout, tout, tout, out and about;" "Look out, look out, look out, out and about." We can well believe that in times of trouble there were *touters* on the *touts*,



Cardinal Morton.

PREFACE.

The manuscript from which the following is transcribed, was written in the early part of James the First's reign; for Sir George Morton, to whom it is addressed, died A.D. 1611. The writer, John Budden, was son of John Budden, of Canford, in this county. He entered into Merton College, Oxford, in 1582, and was admitted a Scholar of Trinity College in the same year; after taking his M.A. degree he was made Reader of Philosophy at Magdalen College, and was elected Principal of New Inn in 1609. His next step was the King's Professorship of Civil Law, and soon after he was made Principal of Broadgate (Pembroke) College, where he died June 11, 1620, aged 54. He published, among other works, "*Reverendiss. Patris ac Domini Johannis Mortoni, Cantuariensis olim Archiep. Magni Angliæ Cancellarii, trium Regum Consiliarii, Vita obitusque*," London, 1607. The name of Thomas Budden appears on the county records as holding a farm, value £60 per annum, in the parish of Hinton Martel, in the reign of Henry the Eighth. Like many of Cardinal Morton's biographers, Budden appears to have drawn largely upon More's *Utopia*. Historical records, both public and private, were not so accessible to the Historian as they are now; our national archives were then kept under strict and jealous guardianship. Such biographies as Lord Campbell's "*Lives of the Lord Chancellors*," Dr. Hook's "*Lives of the Archbishops of Canterbury*," and Mr. Mozley's more recent one, "*The lives of King Henry VII., Prince Arthur, and Cardinal Morton*," had not then been written.

John Morton, the subject of this memoir, was born at Milborne about the year 1420, he was the son of Richard Morton, of Milborne St. Andrew's, and Elizabeth, daughter of Richard Turburville and Cecilia Beauchamp. He was educated at the Abbey of Cerne, and subsequently at Baliol College, Oxford. In 1446 he was nominated one of the Commissioners of the University, and soon after was appointed Moderator of the Civil Law School. In 1453 he was made principal of Peckwater Inn. About this time he held several preferments—the sub-deanery of Lincoln, and the incumbency of Bloxworth in this county, among the number. He appears to have devoted his time at this period of his life not so much to ecclesiastical matters as to law and politics.

Although the cause of Henry the Sixth was a failing one, Morton took office under that Prince. He was present with the king at the battle of Towton, where he had to fight for his life; and after an exile of nine years, he landed with Warwick from Angers, and in the following year, 1471, after the battle of Barnet, he met the Queen-mother at Weymouth, where she disembarked from France, and conveyed her to Cerne Abbey. The death of the young prince at the battle of Tewkesbury, and that of Henry, in the Tower, shortly after, placed Edward IV. firmly on the throne, and Morton took a favourable opportunity to sue for pardon. Edward was much struck with his submission, and without requiring from him any unbecoming concessions, he continued him a Privy Councillor, appointed him Master of the Rolls, conferred on him great ecclesiastical preferment, crowned with the Bishopric of Ely, and by his last will made him one of his executors. Dr. Hook, speaking of him at this part of his career, says “by his business habits, and engaging manners, he soon obtained the confidence of his sovereign, and as Master of the Rolls he diligently laboured to bring the documents into form and regularity, after having been thrown into confusion during the civil wars; the Privy Council during this period having left no records of any value to the historian.” At the death of Edward, Morton was still a Privy Councillor, and

attended the Council Meeting at the Tower which Shakespeare has immortalized, and which Dr. Hook says, "we have upon the highest authority, from Morton himself, who narrated it to Sir Thomas More, if he did not himself pen the narrative." Hastings on this occasion having been taken off for execution, Morton was made prisoner and confined in the Tower, from whence he was removed by Richard's orders to Brecknock Castle, being fearful lest the confinement of so popular a prelate might stir up a tumult among the Londoners. Having escaped from Brecknock he passed across England to the Isle of Ely, and joined the Earl of Richmond in Bretagne. He assisted in planning Richmond's invasion, and was probably the first projector for putting an end to the civil wars by marrying Elizabeth, Edward the Fourth's daughter, to Richmond; by whom he was made Lord Chancellor, which office he held to the time of his death—thirteen years after—during which time, Lord Campbell says, "he greatly contributed to the steadiness of the government and the growing prosperity of the country. Although he appeared merely to execute the measures of the king, he was in reality chief author of the system for controlling the power of the great feudal barons, and he may be considered the model, as he was the precursor, of Cardinal Richelieu, who in a later age accomplished the same object still more effectually in France." Among other laws and important statutes which were passed on the recommendation of Morton was one, to extend the jurisdiction of the Star Chamber, which Lord Bacon and Lord Coke call a "Court of Criminal Equity," and which, not being governed by any certain rules, they considered superior to any other Court to be found in this or any other nation. But the most important piece of legislation with which he was connected was the statute protecting from the pains of treason all who act under a *de facto* king. About this time parliament imposed a tax for defraying the expence of a war, to repair the dishonour they considered the king had sustained by the loss of Bretagne, and, finding by the Lord Chancellor's speech that the king's inclination was that way, appointed Commissioners to gather and

levy a *Benevolence*. This tax, originated by Edward the Fourth, was abolished by Richard the Third by Act of Parliament, to ingratiate himself with the people; it was revived by Henry, who raised thereby large sums. Morton was said to raise up the *Benevolence* to higher rates, by a means which some called his *Fork*, for he inserted an article in the instructions to the Commissioners who were to levy the *Benevolence*, *that if they met any who were sparing, that they should tell them, that they must needs have, because they laid up; and if they were spenders, they must also needs have, because it was seen in their port and manner of bearing*—so neither escaped. Cardinal Morton, being much broken by age and infirmities, after a lingering illness, died at Knoll, in Kent, on the 13th of September, 1500.

J. C. M. P.





A Biographical Sketch of Cardinal Morton

From a MANUSCRIPT (circ 1610) in the Possession of the PRESIDENT.

To the Worthy and well-esteemed Knight, SIR

GEORGE MORTON, his espeatiall frinde, all

health and happinesse

WORTHY S^r,

The life and death of John Morton, a man famous in the com'onwealth of England (and that I may include all in one word)—of great merit and high deseruing in those dayes—is here, under your patronage, exposed to publicke ouerlooking, and, like some delicate protracture, set forth to the view of all passengers.

Hee was of y^r name and blood—yea, very neere in affinitie—and, because some foure yeare since I reme'ber I promised the same, to avoid the imputation of obliuion and Ingratitude—yea to be deliuered of the very feare of such faults—I will proceed, as I am bound, in a kinde of satisfaction, to y^r good opinion conceaued of mee, as far as, by my Industry, the memory of the long since departed may be reuiued.

It falls now to y^r share, euen out of equity and generous disposition, to entertaine this Genius (as it weare) of y^r house and family, y^t soe the name of Morton may be the better illustrated and renowned. And to accept of me (which I still hope for) as an absolute frinde, whose very soule, in all befitting endea-

uours, would be glad to merit well, in the world and in this particular relation, to deserue soe much at y^r hands.

Y^{rs} truly, and inwardly devoted

JOHN BUDDEN.*

The life and death of John
Morton, Cardinall ArchBp :
of Canterbury, High Chancellour
of England, Councellour of
State to Three Kings,
famous for religion,
pollecy and Inte-
grity of life.

In that part of England, bordering on the South, w^h the Durotriges in times paste possessed, and now (though the character is chainged, yet the reason of that significant title remaining,) the people ar caled the Inhabitants of Dorcetsheir, as neighbouring the sea coast. Not ffar from a certaine towne called Beere was John Morton borne. In a countrie p'fitable for pasture and husbandry, ffamous for people and commercers, renowned for ciuility and riches, and much com'ended for enter-taynement and hospitality.

His Famely
and Armes.

Hee was, according to our computation, in the same rancke, and forme w^{ch} wee call gentlemen, and, that I may exemplitie his state and condition, I will play the herauld a litle to blason his coate of Armes, w^{ch} was quarterly Gules and Ermines, in the first and last two Goats' heads, argent erased, hornes or.

* "Early in the 17th century, when the Tudor dynasty had passed away, and a considerable change had come over public opinion and sentiment, there arose a disposition to review the personages and events of the period which brought in Henry VII., and his marvellous progeny. Next to his royal master, Morton is the chief object of this very natural interest. Lord Bacon gave his life in that of Henry VII. and evidently felt a great admiration for him. Budden, a relative (†) of the Morton family, collected traditions about him, and said so much, and that so well, that the regret is he did not say more."

Henry VII., Prince Arthur, and Cardinal Morton, by T. Mozley, M.A., Rector of Plymtree, page 20.

bring-
up. His childehoode, euen as far as his first youth, was spent at home under the tutelage of worthy parents and discreet schoole masters. ffrom thence as to a more uberant soyle he was remoued to the University of Oxford, wher he prospered soe well that in short space he became a man fully furnished wth all the excellencies both of learning and vertue.

descrip-
on. His speech (as that personating Raphaell in More's Utopia* doth demonstrate) well-polished and effectuell, his will incomparable, his memory rather wonderfull than inimitable, his study in both the lawes soe absolute, that it was disputable in which he excelled; his body of a mediocrity in stature, and comelinesse, in grassitude his strength aboue the measure and firmenesse of his outward p'portion, as if it had binne inbred to labour and made absolute by exercise, his countenance com'anding a reuerence, and to w^{ch} thou couldst not but vouchsafe an obeysance, in his gate, a comelynesse tempered with gracefullnes, and his person not difficult of accesse, yet soe disposed that neither his seuerity affrighted, nor affability emboldened any one. To this (besides many guifts of nature) he had a kinde of artificiaall cunning to insinuate with the fauour of greatt men, and reconcile the opinion of the best judicious towards him. To conclude, whatsoever he undertooke he gaue his mind to facelite and bring to perfection.

*"Sir Thomas More gives the following description of Morton in his Utopia:—"John Morton, Archbishop of Canterbury, who was also a Cardinal, and the Chancellor of England, was a man not more to be venerated for his high rank than for his wisdom and virtue. He was a man of middle size, and in the full vigour of a green old age. Though serious and grave in his deportment, he was nevertheless easy of access; and though his manner was somewhat brusque when suitors came before him to solicit his favour, he acted with an object—that object being to ascertain their abilities and presence of mind. Upon those who exhibited readiness of wit without pertness, he found pleasure in bestowing his preferments; for in this respect they resembled himself, and he regarded persons so endowed as likely to be useful in public affairs. He was a man full of energy, but of polished manners. He was eminent as a lawyer, being a man of great grasp of mind, and blessed with a prodigious memory. By study and discipline he had improved the talents with which nature had thus endowed him. The king depended much upon the Archbishop's judgment, and the Government seemed chiefly to be supported by him; for he was a man who had passed for the schools of learning into the courts of princes, and throughout a long life he had been versed in public affairs. Under various mutations of fortune he had dearly purchased for himself an amount of practical wisdom which, once acquired, is not easily lost."—Mozley, p. 17.

Calet to the
Courte.

When he had thus spent his youth and pride of years, he was caled, or if you will, cast by the hande of fortune fro' the schoole to the court, where imployed in many waighty affaires as the variety of times, and busines tumbled and tossed him, he spent his manhood in many difficulties, and seasoned his wisdom (w^{ch} by that means was ever after made solide and imassaultable) wth great experience.

His Prefer
ment.

But the first stepp w^{ch} he made into the house of preferment was the profession of the ciuell lawe, prouing an advocate or proctour in the Arches, the principall Court of ecclesiasticall gouernment, wherein he was soe industrious, and elaborate, that he obtained the name of the well sownding bell of St. Marie's, and glad was that client whose cause he tooke in hand.

Canon—
Civell.

Not long after he p'ceeded in Oxford to such degrees of both lawes, as carried the marks of reputation and worshipp. There such as stode in need of his helpe and advise receaued the fruite of his learning and skill, in greate abundance. Ther (and what can be more pleasing to a free and generous minde) he obtayned the frindship of the mighty, the loue of the best, the wealth of the rich, the imparting of fauours from the officers—the good opinion of all, and enlarged his renowne to the uttermost. There he was a supportation to his frindes, a helpe to straingers, a refuge to the oppressed, a terroure to his insulting enemies, and a sweete moderatour of doubtfull controversies. There he was a fortunate determiner of causes, a punisher of guilty and obstinate delinquents, an equall servant of iustice, to administer every man his right.

Beloved of
Thomas
Boucer or
Bouchier.

While he was thus imployed, and of every one, well allowed and reputed, Thomas Boucer, Archbishop of Canterbury, tooke notice of his good parts and generall acceptation in the University for religion, piety, integrity, and iustice, and aduanced him to some places of honour, besides the reward of many and great benefitts. At last recom'ended to the regard of Henry 6, he was made one of his Priuy Councell, and soe demeaned himselfe that, to the admiration of his competittour, both in the ebbings and flowings of fortune, he suffered noe manner of blast to shoue

him a side from his uprightnesse; but stoode firm (w^{ch} I must speak wth admiration) to the dislocated King, and when he seemed stripped of prosperity by the ouerdaring hand of a preuailing adversary, he took in good part the communication of affliction, and went arm in arm wth his distressed prince into the house of deiection.

le flies into
France.

Presently, after o^r encounters of Towton, w^{ch} may welbe called the English Pharsalian bataile, he accompanied Queene Margett (a woman extraordinary for witt and courage aboue her sex; yea, an heroine virago of her time), wth her sonne, Prince Edward, into ffrance, desiring if it were possible, to meete wth some better fortune in a forren nation. From that time he neuer returned into England all the while King Henry was kept prisoner in the tower, untill that day of terroure called Barnet feild, wherein such was the rage and fury of their impetuous assaulting one another, y^t it was not disputable amoungst them whoe should Raigne but whoe should live.

After the fight, and y^t now the Lancastrian forces weare dissipated and ouercome, yea all Kinge Henries frindes as it weare thrust into the house of slaughter.

Morton recommended
o Ed. 4 fa-
vour, and
made Bis-
hop of Ely.

Edward the 4 was glorified wth the victory and sweetnesse of a new establishment, but yet (if I may say soe) the conquest of his passion and affection exceeded the glory of that triumph, for upon the consideration of Morton's vertues and fydelity, being induced by many worthy examples of his well deseruing, he not only pardoned the fault for being his opposite, but tooke him to fauour and mercy, and not long after, as it weare, rauished wth his plausible demeanour, aduauced him to the Bishopricke of Ely, a place in those days (besides the great reuenewes and wealth belonging to the same) of Kingly prerogatiue, as hauing annexed unto it the dignity of a Count Palatine, w^{ch} Hen 8, his nephew from Elizabeth his daughter, repining at, and desirous to drawe all authority into his owne hands, by act of parlament dissolved, and as it wear, cut of by the head.

After this King Ed. soe sat in the chaire of quietnesse and peace, that not only the seeds of his ciuill dissentions weare

trode under the clods of his victories ; but he was able to make war abroad (as he indeed attempted against his insulting adversary of France and dissembling friends of Burgundy). As for the home suspicion of any further innovation (as I sayd before), he continued all his lifetime in a glorious majestic, formidable to his most daring enemies, and acceptable to his welbelov'd subjects ; but at last, in his fluent current of prosperity, he repay'd to Westminster, where he was suddenly over-taken by that great disturber of mortality—a greivous sickness.

Whereupon, when he perceiv'd all men to deplore his estate and misdoubt his irrecoverable recovery, he thought it best to make his will and establish his affaires by an orderly course of a last testament, in which (amongst other worthy councillors he appointed John Morton a principall Executor; thus truly solicitous for the safety of his princely children and the agreement of his dissentious lords, between whom, even in his sorest fits, the sparks of dissection burst out into flames of revenge, he made a kinde of attonement, and, wth his liege's expiration, coniured the one to the sweet embraces of love and friendship, and committed the other to thier overlooking and government.

Thus was Prince Ed., of his own name appointed his successor, and proclaimed heire to the kingdom, had not that monster in nature, the Duke of Gloucester (whose perfidious memory is execrable through the world) dissappointed the same, and through exorbitant treasons and hateful immanity brooke all inclosures of duty and religion, w^{ch} weare wonte to tie men to strict performances and true allegiance.

This is that Richard w^{ch} was branded wth the name of a tyrant for p'ecting to himselfe the supream authority, not caring wth what a murderous hart and sacrilegious hand he reached at the crowne, for w^{ch} purpose Anthony Woodvill Earl Rivers, uncle to the young prince, was first of all dispatched at Pomfret. A man to speake the truth of great uprightness and high courage, w^{ch} made him soe formidable to The Tyrant in all his designs ; yea, as he supposed a maine

obstacle to his unreasonable pretences ; wth him he overthrew William, 1st Hastings, putting him to death in the tower, and divers others ; amongst whom John Morton, Bishopp of Ely, was committed to the custody of Henry duke of Bucchingham, and had not the insatiate tyrant been glutted wth the blood of others or the reuerende sanctity of the man, together wth his grauity, diuerted the execution of his wrath as it fearefully houered ouer him. But soe it pleased God that this usurper's fury was somewhat mittigated, and the Bishop's life was preserued to the eternall good and prosperity of England's com'onwealth.

Here I cannot overpasse the wonderfull care of the Univ'sity of Ox., which, like an Indulgent mother from the loue she bore unto her distressed childe studied his recouery, for, as she in one way rejoiced at the well-deseruing honours of the Bishopp soe now shee deplored his independing misery and p^rsent captiuitie, to which he was subiect, whereupon to p^rvent his finall destruction and untimely murther, and by one meanes or other to obtaine his liberty, if not reconcile him to fauour wth a generall consent they thus wrought unto the king.

xford's
petition for
p. Morton

To the most Christian
Prince Richard by the
Grace of God King of
England, France, and
Lord of Ire-
land.

Ther ar many reasons (most mighty Christian Prince) w^{ch} ought in a manner to comple us to implore y^r noble clemency toward that Reverende father in Christ, o^r lo^r Bish. of Ely. ffirst in that he was one of o^r best beloued and principall children, and so dismissed from us ; secondly, that he euer shewed himselfe most ready and incumbent in all o^r affairs, and a worthy patron or protectour of o^r causes whensoever o^r businesses soe fell out Thirdly, in that he ever proued a very pillar and supportation to the church and sanctuary of God. But although thes may be reputed sufficient, yet should they neuer have perswaded us to importune y^r royall clemency for his pardon if we did

not perswade o'selves to support the honor and security of y^r sacred person, because wee ar as much bound (if not rather more) to the exceeding greatnesse of y^r bounty as to any of the princes, y^r p^rdecessors; wherefore when we stood in doubt of his demeanour toward you, or wth what minde he was transported either to further or contradict your proceedings, wee determined that it was unlawfull wth y^r hassard to take care for his recouery. But now fully resolved that like a man he fell through humane frailty, and noe settled malice or inueterate dispiht, o^r very bowels ar moued to impetrate y^r mercy for him. As Rachell mourned for her children and lamented the miserable calamity of her distressed infants, wee may be the rather most graciously pardoned, for if a piety and gentill yealding to remission amoungst enemies is worthy of com'endation, much more ought o^r Uniuersity (however obseruant to y^r majesty) p'fessing the study and practise of religion, vertue and humanity, extend her charity and be prazed for her piety towards her owne.

Seeing then it is soe, and resolvett to p'erastinate it no longer, all supplicante and obedient we prostrate o's. before the throne of y^r clemency, beseeching y^r maiesty, that seeing he hath suffered punishment for soe slender blasts of offence, or seeming faults perpetrated against you (if wee make not the greater fault in saying soe) it would please you to impart some fauour towards him for his liberty and remission, if not gracefull acceptation, in w^{ch} the benefit shall not only accrewe to him, to us, and the whole church, but to y^rselfe obtaine eternall renowne and p'sent emolument (as wee hope) by the same; ffor who shall heare of the pardon and remission, or, if you please reconciliation of soe greate a father, of the goodnesse and effect of soe high a clemency, and not extoll it to heaven, for according to that of the Poet, *Parcere subiectis et debellare superbos*. The Romans weare wonte to glory, when they heerd their Encomions sung for sparing the submissive and propulsing the contumacious and proud, wherein and whereby also according to Salust they ratified the obedience of more people, then they

obtain'd co'quest by theire armies, as being always rather ready to pardon then punish.

If then it please y^r Maiesty to affect the same glory and co'mendation (w^{ch} you may easily doe in this man's reconciliation), you shall euen overcome the Romans themselves, and in this pointe of clemency excell them. Although we well apprehend it in the commemoration of his vertues and high exalted worth; yet had we rather leaue it to the consideration of y^r owne wisdom than p'secute it by any tedious and distasting oratory, least we might hassard y^r good opinion for wresttting y^r favour, as it wear rather by force, when we goe about to praise the man, then by simplicity of deprecation; that we rather p'sume on the greatnesse of his vertues, than the sweetnesse of y^r compassion; to conclude we rather appeal to y^r kingly iustice than princely mercy for the same.

Wherefore (most excellent Pr), think this of us, we pray you, that whatsoever is spoken of in the behalfe of o^r Bishop is rather by reason of o^r duty, then by diffidence of y^r mercy, soe that dissisting from all allegations w^{ch} may either extenuate his faulte or augment his renowne, we altogither submit our hopes, o^rselves, and prayers to y^r acceptation, p'mising and p'testing before the throme of the Divine Maiesty that, though other things faile us, the eternall memory of such a collated benefit shall never be blotted out nor diminished, and soe the God of all preseruatiō, keepe and secure y^r royall person as the apple of his eye, most mighty Christian King, o^r only p'tection and refuge.

ffro' S^t Marie's in
Oxforde, August 4.

But he whome the Diuell had wholly possessed worse then Saul's evil spirit, was soe far from any impression or relaxation by the enforcement of an oration, that, instead of leniating his immanity, he sent him prisoner to the Castle of Brecknock, whereby this worthy prelat's patience was anew put to the touchstone, wherein he remained awhile, untill by an ouer-

reaching wisdom he deceived the Duke of Buckingham, and found means to escape.

This Buckingham was a man of high honor and ancient consanguinity, ready witt, but open breasted, full of trustfulness, but presumptuous of his owne hope, not wanting the fault of ambitious desires, nor commendation of gracefull eloquence; an artificiall workeman for popular loue, and yet unable to beare or dissemble iniuries, impatient of wrong, and one whose fortune may sometimes be deplored, sometimes accused. Betweene him and the tyrant weare new differences kindled, about the deniall of the Earledome of Hereforde, which the duke chalenged as the proper inheritance of his house, but the King interceded as findeing some interlacings wth the Crowne. The King's ingratitude augmented his greife, and the rather, because he was fully settled in the throne by his assistance, ffor Buckingham, upon hope of some promises of the Duke of Glocester. made him King of England. Wherein established, he began to examine the matter better, and at last went backe, as wee say, from his word in the restitution of such lands as he had, formerly made the Duke of Buckingham beleve he should haue, wth w^{ch} indignity Buckingham was both moued and enflamed, soe y^t fro' thence forward he caste about for all devises and counsells w^{ch} might tend to the King's overthrowe, and to use his owne wordes, to take away from amongst men that diuell incarnate and fend of hell, odious to God, hateful to good men, terrible to the Kingdom, and to me (as by woefull experience I have approued), most ingratefull, which I cannot but stomache and remember wth great indignity, soe that if he compell me to be his adversary in the co'mon cause, he shall see me armed in the feild amongst a well marshalled co'pany of souldiours; wher shall he finde securitie of men or place? But must be sure of destruction, and, besides the mangling of his honour, to resigune the crowne (except I presage amisse) to some other better deseruing as the reward of his vertue.

"To this or the like purpose, spending his meditations, and resolued to ouerthrow the tyrant, if he could, he comes

to the Bishop of Ely under shew of exceeding loue; but of purpose to drawe him to his party, beginning with seuerall familiar discourses, and extending to the full all the parts of humanity and good-will. But it fell out that the Bishop carried himselfe after such a manner (which is not much to be mareviled at) as tended to the libertie of the one, and utter ruine of the other, this wrought by the ambition of the duke, that effected by the wisdome of the p^rlate; for by seuerall discourses finding the Duke willing to confer with him about thes secrets, he brought him along wth faire words and many bewitching phraises, whereby he perceiued by certain abrupt speeches, y^t the Duke's pride burst out now and then wth some flashes of enuie against the glorie of the King, w^{ch} if the matter weare well-handled, would both easily and very quickly induce him to fall off fro' his alleagiance; wheareupon he very cunningly wrought upon him to goe forward in his p^rtences, and yet soe keeping himselfe wthin bounds, that he rather seemed to follow then to lead him, ffor when the Duke in a certaine conference began first to commend and extoll the King, inferring how blessed the realme should be in his raigne, it is thus reported that the Bishop answered:—

“Surely (most worthy prince) it were folly for me to dissemble, and if I should sweere the contrary my speeches would carrie noe credit wth you, therefore I wilbe plaine and open my minde unto you, if the times had seconded my wishes and aauanced King Henrie's son to the crowne, and not King Edward, I had proued his true and faithfull subiect. But after the eternall p^rvidence had decided the controuersie otherwise, and ordained King Edward to raigne, I thought it neither wisdome nor charitie to striue with the King for a dead man's cause, and applied myself to a dutifull subiect, and true chapleine to the p^rsent King, and would have bin glad if his children had succeeded him, but, seeing the diuine disposer of secrets hath otherwise determined it, there is no kicking, as we say, against the pricks, nor p^rsuming to turne the frame of heaven about; but as for the late p^rtectour, now King,” and with that

desisted fro' further speech, sauing that he added that he had allready meadled to much wth the world, and would hence forward be more chary of his time, to spend it in study and contemplation.

The Duke, longing to hear what he would haue said, considering he made a periode of naming the King, embouldened him to goe forward, and very familiarly assured him that what breath was spent betweene the two should never receaue further life or redound to his preiudice, but peradventure to more future good then he could imagine, ffor the truth was, he p^rtended to make use of his great experience and faithfull advice, w^{ch} as he saide, was the only occasion of p^rcuring his custody, from the King, that he might finde his imprisonment like a sweete dwelling of his owne, otherwise he might haue lighted into their hands, wth whome he should not have found soe great fauour.

The Bishop right humbly thanked him, and so proceeded. Truly, my lo^r I desire not much to taulke of princes, as a thing very dangerous, ffor although the com'unication may be without fault, yet it is in the pleasure of the King to accept it well or ill, w^{ch} makes me reme'mber a tale, in Isope, concerning the lion's proclamation, that on paine of death no horned beast should p^rsume to come into that woode, whereupon a certaine beast having a knobby rising of flesh growing on his forehead, flead apace, until the fox asked him why he made such haste, and wheither he went. Surely, said he, it is no matter wheither, so as I weare once out of these p^rcients and danger of the p^rclamation against horned beasts. Why fool (qth the fox) the lion's meaning extend not to thee for that w^{ch} growes on thy forehead is noe horne: that is most true, replied the other; but if he says it is a horne, where am I then? The Duke by this time laughed out right, and said, (my lo^r) I warrant neither the lion nor the bore shall lay any imputation on these speeches, ffor they shall neuer come soe much as to be whispered unto them. Surely, replied the Bishop, if they did, and y^t w^{ch} I was about to say might happen into the mouth of a true reporter explaining my meaning, as it is before God, it would deserue thanks, and yet

inverted or misconstrued p'cure me little good, and you lesse. Wth this abruptnesse the Duke was the more exagitated to know what he ment, whereupon o^r Morton thus expressed himselfe. My lo^r, concerning the late p'tectour, now King, I determine not to dispute his title, but touching the p'speritie of the realme whereof he hath now the supreame authoritie, and I am a poore me'ber, I was about to wish that those eminent vertues (whereof he hath some store, little needing my Emonion or exemplification) yet might haue pleased God to haue united such, as he hath planted, and I have founde in y^r princely grace, worthy the gouernment of a kingdome indeed; and here againe he staid himselfe.

The Duke, somewhat startled at these sudden pauses (as if they weare parentheses), with a kinde of Elation and high countenance, spake againe.

My lo^r Bishop, I haue obserued; and do evidently perceiue, that by these sudden breakings of, in o^r conference, you haue some furthur meaning then you seeme willing to utter; ffor your speeches make noe direct or perfect sentences, whereby I may truly understand what y^r inward intente is toward the King, or affection toward me; y^r comparison of good qualities ascribed to us both (whereof, for my parte, I disclaime the fruition and lesse look for another com'endation) makes me to conceiue that you haue some furthur drift, either from loue or mislike, engrafted in y^r harte, w^{ch} yet for fear you dare not, or for shamefastnes you be abashed, to disclose; but what neede this nicety to me, y^r contracted frinde, whoe, on my honour, doe warrante you such assurance of taciturnity as the tred to the hunter, or deafe and dumb to the singer.

The Bish. thus the better emboldened through the Duke's promises, but more animated from his own apprehension of his disposition to be magnified and extolled, and wthall collecting wth what inward hate and rancorous malice, he was seduced against the king fully opened his mind and shewed him the bottom of his thoughts, p'tending thereby either the destruction and utter confusion of King Richard, by depriuing him of his crowne

and dignity, and soe to incense the Duke to some ambitious prosecutions that he himselfe might haue opportunitie to escape, w^{ch} he shortly brought to passe, by the high permission of God to the King's destruction, the Duke's confusion, and his owne liberty, wth addition of high promotion, and soe as is before recited upon confidence of the Duke's fidelity the Bishop proceeded.

My worthy lo^r, since the time of my imprisonment, being in y^r grace's custody, I haue found soe many fauours that I may rather call it a pleasant freedome than unsauery Dures, and amongst other the passing my time in study, ffor thereby I have made use of seuerall cautions and positions, and amongst the rest one spetiall caution, that noe man is borne to his own liberty, or absolute disposing of himselfe, because he oweth to his natie co'ntry where first the breath of his nostrils sucked in the sweet of the aire, nay challengeth as great a share of his duty as any other, which causeth me to consider the deplorable estate of the kingdome wherein I liue, comparing the times past wth the times present, and recounting what a gouernour wee now haue, and what a king we might haue, soe that as the case now stands, all must come to utter confusion a'd desolation, yet ar not my hopes quite abortiue nor the fier of my expectation cleane extinguished when I behould y^r worthy selfe, and understand that y^r hart is as it weare a *magazine* and storehouse of wisdom, iustice, and impartiallity to which, when I ad the heate and ardent loue of y^{rs} towards y^r country, and of hers towards you, I am not a little reuiued, but come forward wth a more cheerful allacrity to *Catalouge* y^r great learning, pregnant witt, gracefull eloquence, and personall comelines, thinkeing this realme most fortunate, yea twise more then fortunate that hath such a prince in store worthy of a crowne, and most meete to gouerne the same, as one in whome I say is resident the true p'tracture of honour and vertue. On the other side when I reme'ber the good qualities of the late protectour, now called king; soe violated and dilacerated by tyranny, soe chainged and obumbrated by usurpation, soe ouercrowded and shadowed by

insatiable ambition, soe abused and stained wth fowle and enormous impiety, and so suddenly trashaped (as I may say) from civill and polittique vallour to outragious and detestable tyranny, I must needs conclud (however there is danger in the very thoughts) that he is neither meete to be a king of soe noble a Realme, nor soe famous a co'monwealth befitting to be gouerned by soe infamous a Prince.

Was not his first stepp to the diademe in blood, and through the house of slaughter of diuers noble peers and valiant persons? did he not traduce his owne mother for incontineney and dissolute liuing? did he not p'claime his brethren and all theire children Bastards as borne in adultery? did he not afterwards p'ceed wth the murther of 2 poore innocent princes, his owne nephews, whose blood so cruelly spilt, cries to heauen for vengeance, and will no donbt be powerfull to open the dores of destruction against him? Who shall liue secure under his tyranny? Whoe is not affrighted at his immanity? What place may be trusted to escape his savadgnes? for he, that did so little respect the slaughter of his owne kindred, will lesse regarde the confusion of others. Let me conclude in a word, and to the purpose; if either you apprehend the dutie w^{ch} Religion, faith, charitie, kindrid, y^r distressed country, and God himself challengeth at y^r hands, you must take upon you the gouernment of the kingdome, both for y^r preseruatiō, of the glory of the same, and the faceliting that burthensome yoke of slavery w^{ch} hath so long laine on o^r shoulders, that the best of the kingdome even groane againe under the pressure of all wretchednesse and misery; this if you refuse, then I co'iure you by all the title of reason and sanctity, by y^r vow to God in y^r Christianity, and by the hope of eternall saluation, to inuent some meanes and indeauour in the same, that this kingdom now soe torne and abused, may be repaired againe under a more moderate gouernement of some better Prince. To this purpose spake the Bishop, and soe brake off wth some diffusednesse, the Duke not answering a word at that time.

The next day they mett again, and although they continued

A marriage
concluded
by the
Bishop's
means
betweene
Hon. Earle
of Rich-
mond, next
heire of the
House of
Lancaster,
and Eliza-
beth, eldest
daughter of
Edw. IV. of
the House
of Yorck.

not only in com'emoration of the former discourse, but in a larger walke of most searious affaires, yet the period came to this, that if Hen. Earle of Richmond, nephew to John Duke of Sommerset, of the immediate line of that famous John of Gaunt, Duke of Lancaster, would marry Elizabeth, the eldest daughter and next heire to Edw. 4 of the House of Yorcke, he then, by y^e whole consent of the kingdome should be saluted and appointed king, the secreisy of w^{ch} businesse and decree was imparted to Reignold Bray, a man of spetiall trust wth Lady Margaret Countesse of Richmond, and mother to the Earle, whoe according to the confidence reposed in him, effectually dispatched the same.

But as this busines had a comfortable passage, the Bishope of Ely found an opportunity to escape, according to his former proiected desire of liberty, and so chainging his rayment, very priuately conveighed himselfe into his Ile of Ely, from whence sufficiently assisted wth frinds and money, he sayled into the low countries where how he demeaned himselfe wth all wisdome, faith, diligence and uprightness, the larger stories are plentifull and impartiall.

In the meane while King Richard had solicited ffrancis Duke of Britaine (in whose custody Hen. Earle of Richmond had long remayned) to deliuer up his prisoner into his owne hands; but all in vaine, for the worthy Duke would by noe means consent to soe facinerous a treason, nor be corrupted wth any reward whatsoever.

At last the well-instructed orators so p'vailed (shewing that the King desired nothing but his imprisonment for feare of setting in co'bustion the whole state) that the Duke of Britaine was contented to receaue the Earles reuenewes and of all such as belonged unto him, as confiscated and made over by the king of England, but the Duke, faling into his accustomed malady or frency, was unapt either to attend or heare Ambassadors, where upon Peter Landoies, his principall treasurer (a man more corrupt, and couetousnes itselfe), and moulded by the working hand of K. Richard to the same purpose, undertooke the

matter, and had surely betrayed the Earle, if the Bishop of Ely, acquainted with the same, had not thus preuented the mischief.

Upon sure intelligence of these p'ceedings both in England and Britaine, he sent Christopher Urswick to the Earle of Richmound with full notice of the danger he stooode in, advising him wth all secrecy and speedinesse to convey himsele into ffraunce under couler of some hunting match, to w^h he was orderly intentiue, and fortunately obeident, and soe p^rsented himsele to K. Charles of whome he was not only louingly accepted, but princely supplied with men, money, and munition; whereof if Ely had not bin the Author, and as it weare the threed to conduct him out of the laberinth of his troubles. O Richmond, it had bin ill with thee, and all thy co'plices, neither had thy fortunes increased, nor frinds reioyced, neither had former dissention bin allaiied, neither had the roses bin ioyned, nor of thy daughter Margett, a kinseman raised by eternall happinesse to unite two kingdoms together, and make o^r Iland one monarchy! Whereupon, when King Henry had most prudently made a collection of these inestimable benefits, collated, and transferred unto him by the only wisdome and endeauours of the Bishop of Ely, as well to avoide ingratitude as to shew his owne princelynes, he recalled him home againe, and, in the place of John Alcock, Bishop of Worchester, made him lo^r High Chancellor of England, and when John Boucer died, solicited by y^e mouncks and p^rlates of y^t see, advaunced him, metropolitan and Archbishop of Canterbury.

When he was thus confirmed an Archbis., as it becometh a good pastor, he most iudiciously gouerned the church and ouerlooked the clergy, appointing a Synode in the yeare 1486, in Paule's Church of London, whereunto he summoned the rest of the bishops, and many other p^rlates, and wherein many excellent matters, as is well knowne upon record, weare discussed, and diuers lawes established, espetially against the clergie of London ffor their riotous behaviour; ffor their frequenting of taverns and cook houses more often and unseemly than befitted men of their rancke; ffor their weake sermons at Paul's crosse, desisting

fro' religion and true diuinity, and filling them wth unsauery stuffe of church discipline, and veneration of preists; ffor a contumacious finding fault wth the absence of Bishops, and that before the laity whoe weare naturally proud, and ready to apprehend, and accuse the clergy, and take exceptions to their misdemeanors, all w^{ch} considered the Archbishop inioyned them, that if anything fault-worthy happened amongst them they should first complain to the bishop of the Dioces, and if neither reformation followed, nor punishment were orderly inflicted, then to repaire unto him, whoe warranted to correct them most severely, that p^rsumed on their owne greatnesse, or the supportation of others, soe that he would receaue the blame of all, espetially if either the sermons weare not framed to the edifying of the people, or the Preacher reformed to the good example of others.

While these things weare debated in their consistories, there repayred unto them certaine lords from the king, namely John Dinham, lo^r Treasurer of England, John, Earle of Oxford, Tho. Earle of Darby, whoe weare p^rsently admitted into their conclaue, and declared to the Archbishop that ffrancis Duke of Britan, to whom King Hen. was so much obliged, and fro' whome he receaued such hospitality, was in some distresse, as misdoubting the ambition, and intrusion of y^e ffrench king, whoe lay a long time in waite to take him unprouided; wherefor King Hen., in requitall of former gratuities, could doe no lesse then succour and assist him, wherein he was to craue the beneuolences of his subiects, espetially the clergy, to whome he now sent to knowe what he might lawfully demaund, and they willingly affoord. W^{ch} the Archbishop fully co'prehending, he conferred wth his brethren, and wthout further procrastination concluded to give him £25,000 sterling, and a whole demy. He collected a great sum of money through the p'vince of Canterbury, but wheither as a subsidy or gratuity I disput not upon, w^{ch} was performed wth some solemnity of words; "ffor the glory of God and defence of the Church of England"; whereupon out of the Dioces of Canterbury alone (and soe for

the rest wee may easily gesse) ther weare 354 principals numbred.

Thus living, as it weare, in the lap of fortune, and prosperity the second from the king, and wanting nothing w^{ch} the hart of man could desire, unless (as if he had bin borne to the greatest honour) the times afforded to affect a Cardinal's hatt, w^{ch} wthin the 8 years of his translation he p^recured. He was sullenly invested wth y^e title of cardinall of St. Anastasia, and by Alex. 6, least he might be deferred from his supream greatnes, orderly enrowled in the conclave of those purple robed fathers.

At this time peradventure, others weare inflamed wth this new title and dignity, espetially Richar, Bish. of London, wth whome the Archbishop had some charable controuuersies about the p^rving of wills, and signing of testaments, suggesting that he was afraid to admit of this cardinall dignity, as mistrusting that he would usurpe the full authority or complement of Iustice (for such weare his words), and yet he was ready upon some religious interposition to obtaine the same. He much stomached the com'on people, excommunicating them, I know not upon what contumacy, and rebellious occasions, ratifying to posterity that if the victory weare the lesse in such contentions, he might be esteemed the better for the goodnesse of the cause; but it is now convenient to pass ouer, then com'emorate these things, and therefore I will come to other matter.

It is said he affected Anselmus, a man so famous in the world at that time, as it was disputable wheither his piety or learning excelled, in soe much that of all other things he endeaoured whatsoeuer it cost, to canonise him a sainte, w^{ch} Hen. 7 likewise went about, for his uncle Hen. 6, second to none of his p^rdecessor kings for princelennesse of manner and sanctitie of life, to w^{ch} purpose o^r Morton had full authority to examine his actions and miracles, and render a true relation of the same; but when the king undertooke that it must cost 894,000 duccats he very indiciously desisted from his purpose.

Not long after Queene Elizabeth most happily brought forth the lady Margarett, her eldest daughter, having had two male

Princes before. She was christened at the font by o^r Morton, who celebrated the memory of such an eternall blessing, as if he p^rsaged she should proue an immortal seminary of kings, (which wee hope and pray for), and had full assurance of that future good, w^{ch} we now participate, ffor fro' her hath already sprung a race of illustrious princes, whose daughter p^rved grandmother to o^r James (w^{ch} exceeds all the rest) the monarch of Great Britaine.

At this time that tumultuous innouation, and seditious rebellion of the Cornishmen against the commo[']wealth began, as deniing the payment of certaine impositions laied upon them for the Scottish p^rparation, inferring their pouerty, and that they inhabited the barennest place in the kingdom, getting their liuing wth extraordinary trauell and toyle, night and day in the mines. Soe y^t they weare able to disburse no more, traducing for the same, Cardinall Morton and Reginold Bray, because they wear the king's principall seruants and counsellors of honorable trust and favour, of high Authority and co[']mand in the gouernment, and of such espetiall eminence that theire very names drowned all the rest. Against these was all the outcry of the co[']mons, they weare only threatened and rayled upon, as the suckers and caterpillers of the co[']monwealth, rather then wise counsellors and faithfull officers. These were co[']demned to loose theire heads after the manner of the Romans by the tearme of *more maiorum*, and thus they raged against them as *parricides* and uultures praying upon the poore and oppressed; when as in truth if we may giue credit to all histories and times, these weare such as restrained the insolency and corruption of others, presuming to much on the king's noble demeanour; yea if the king himselfe admitted or consented to anything repugnant to Iustice; or omitted what was befitting to his honour, such was the sincerity of Morton and Bray that he relied upon them as reforming censors, and well-appointed counsellours.

But this is the error of ignorant people, and the madnesse of a rebellious multitude, demaunding they cannot tell what, and accusing they know not whome; such is the fortune of great

men in corrupt times, that let them behaue thems, neuer soe well they shall be sure of enuiours.

Whereupon after the miserable slaughter of these Cornishmen, and that the fier of rebellion seemed quite extinguished, the Cardinall Morton, well stricken in years, retired himselfe to his priuate house, both to rebate the calumny, and reproach of malicious p'sons, as also to keep open hospitalitie for welco'ming of straingers and releeuing the poore; they resorted unto his pallace as to a publicke and famous Inn, these weare welco'med in thousands, and still depended upon him for Almes and sustentation, yea all weare entertayned wth cheerefullnesse according to the Apostles warrant, whoe co'mandeth Bishops to be harbourous and full of commiseration.

By chaunce there met at his table one day, amoungst the rest certaine lawers, and a traueller w^{ch} had bin out of England; the disputation was about inflicting theeves wth death, he co'mending the iustice and seuerity of other countries, which sometimes hung 20 together on one paire of gallows, prouing it was a part of iustice and not custome to doe soe. They againe as it should seeme affirming that there was no fundamentall position of scripture or Auncient gouernment to confirm it. At last the Cardinall, apprehending what was alleeged on both sides, played the moderator betweene them, and, with a binding voice, concluded the matter, by saying it weare most necessary to correct such, whome neither admonitions, threatnings, nor lawes could restraine fro' foule perpetrations; euen after the same manner that the traueller had discovered to be the judgment of other cuntries, to the w^{ch} he added that Roagues and vagabonds should be looked unto by the same lawe, w^{ch} censure was well approued of by the companey; yet one amoungst the rest seemed to distinguish concerning these sorts of Beggers, affirming that the com'onwealth might well p'vide for such, whose infirmities of body or impotency by years made unfit for labour; but a stander by, some table-follower, jester, or parasite replied, that without further troubling the state he knew a way how this might be effected, by sending all the beggers who were sick or

aged, into the monisteries of the benedicts, that soe lay men might become mouncks, and women nunns; whereat the Cardinall laughed p^rsently as approuing the iest. This shall not serue y^r turne, said a certaine holy frier, unlesse you will advise how wee shall be likewise p^rvided for. Why, answered the iester, this is sufficiently p^rformed allready, ffor my l^or Cardinall hath well ordered the matter when he set downe how roagues and vagabonds should be serued, ffor you are the greatest vagabonds and wanderers in the world. *Who, we*, said the ffrier. Dost thou call us roagues and vagabonds? Thou art a knaue, a rascall, a slanderer, and sonne of p^rdition. W^{ch}, when the iester p^rceaued was taken in such ill parte, he thought it needlesse to exasperate the matter, and therefore, more moderately answered "Good father, be co^tented, for it is wrighten "you must possesse y^r soules in patience." I am not angrie thou naughty pack, answered the ffrier, or, at least, I sin not, for the Psalmist saith, "Be angry and sin not." Here the Cardinall advised the ffrier to be more moderate, and suppress his fury. No, Lord, said he, I speak but out of a good zeale, as I ought, for holy men have bin this way transported according to the saying "The zeale of thy house hath eaten mee up;" and y^t is sung in o^r church. The Scoffers of Elisheus—while he went up to the house of the lo^r,—the scoffers of his baldnesse, were punished, as this Ribauld, scould, and mocker may be. Well! answered the Cardinall, you may do this with a good intent; but surely I suppose it was more religious, yea and mannerly wisdome, not to contend with a foolish man, if you think there is that difference betweene you. No, my good lo^r, said the frier, I should noe manner of way be the wiser, ffor Sollomon saith "Answer a foole according to his folly," as I doe now, shewing him the ditch in w^{ch} he must needs fall if he take not heede, for if the many scoffers of Elisheus who was only one balde man felt the curse of the balde, how much more shall this one scoffer of all friers, amoungst whome are multitudes of balde, be punished euerlastingly; besides wee have warrant from the Pope that all w^{ch} deride us

shalbe excommunicated. When the Cardinall perceaued that nothing would satisfie or apease this prating frier, he beckoned to the other to holde his peace, and soe administering occasion of better taulke, he suddenly rose from the table, dismissing his guest, and applied himself to the hearing of poor petitioners.

I haue insisted the longer on this relation, either because I would approue Sr Th. More, in his owne words, who was brought up in the Cardinall's house, and by his goodnesse settled in the Universitie of Oxforde, as in his Utopia, may appeare, out of whose larger discourse I have thus abbreviated the matter.

Or in regard of the euerlasting memory of so famous a Prelate by whome you must needs be the more graced, and as it weare tickled wth the renowne of one of y^r affinitie, name, and family, ffor euen Oxford itselfe, that famous Univ^rsity, besides the acknowledgement of many receaued benefits, he hath adorned her monuments wth his armes and diuises both in the Pulpitt of St. Marie's, the Divinity Schoole, the College gates, and other places of eminency, all w^{ch} make full demonstration of his learning, vertue, high descent, and munificence in importing great matters unto them.

The office of Chancellourshipp w^{ch} I neuer knew conferred on any one but of the hiest honour and worthynesse, and for w^{ch} many haue laboured, both directly and indirectly, as a matter of great consequence and glory, the Univ^rsity itselfe by a ginerall consent p^rsented unto him, wherein he demeaned to their perpetuall good, and his owne eternall commendation; bequeathing by his laste will and testament a certain some of £613 3s. 4d p' an'um for the maintenance of 20 poor schollers at Oxforde, and 10 at Cambridg, 20 yeare together. The rest of his substance he bestowed in mainetaining the poore, releiving of orphans, promoting his frionds and acquaintance, honoring his kindred, enriching his family, and in repairing or building his houses, and public edifices, for he set upright his palace at Lambeth, redy to fall. He built the Castle by Wisbich euen in o^r grand-father's dayes, he made a cawsway in the fenne for the better accom'odating of passengers, and enriching the towns, by w^{ch}

occasion greate concourse of people weare the rather induced to fill the markets.

By this time age steales upo' him ; euen to the usurpation of the last period of his life, w^{ch} brought into his minde, that when this mortality was to be put off, another garment of happinesse, and eternity came in place to be put on, w^{ch} he perceuing not far off, made his last will and testament to this purpose :—

“I, John Morton, of sound memory and in health, thanks be to God, both of body and minde, meaditating wth myselfe that there is a necessitie of diing imposed upon all men, and that ther is nothing soe certaine ; nor uncertaine as the manner and the time. Besides acknowledging that ther is nothing soe execrable amoungst men as to neglect religion, or their owne duties, w^{ch} errorr many sinners fall into, and by reason of forgetting God while they liued, forget the'selues diing, w^{ch} to p'vent as far as grace is imparted, I thus ordaine my last will and testament.”

In this many legacies and reuenews weare disposed of, to publicke and pious uses out of his own inheritance, he forgat not Hen. 7, his last lo^r king, and illustrious benefactour, Queene Elizabeth his deare lady and mistres, the Princes Margett, Countesse of Richmond the king's mother, a woman of exceeding good parts ; for as a token of his gratuity, and instigation to their remembrance, he gave to the king a portuse* of gould ; the Queene, a psalter of gould ; the Princesse their daughter a cupp, wth certaine tunnes, and £40 in gold ; to Lady Margett Countesse of Richmond the image and portrature of o^r lady in pure gold ; to the See of Canterbury his miter and arche-episcopall crosier ; to his seruants and dayly wayters, his houshold stuffe ; and to the diuine mercy he co'mended his soule.

Amoungst other things he gave a charge for the celebration of his funerall, w^{ch} cost 1000 marks sterling, and that they should

* Breviary—*Portuses* are mentioned among other prohibited booke in the Stat 3 and 4 Ed. VI. c. 10, and in the Parliament roll of 7 Ed. IV. p. 40, there is a petition, that the robbing of *Porteous*—Grayell, Manuall, &c., should be made felonie without clergy ; to which the King answered *Le Roy s'avisera*,

“By God and by this *Portos* I you swere.”—*Chaucer*.

only lay a plaine marble stone on his grave, wthout further ostentation of a magnificent tombe. His heires weare Tho. and John Morton†, his brother's sons, and his executor was John ffynucks, Cheif Justice of the King's bench, wth other of speatiall note among the clergy.

Thus died in the lord this worthy father of great years and famous memory, after he had serued three kings, wth all regard and acceptation,

was renowned for piety,
witt, learning, and expe-
rience, honoured for his
grauity, and places of
authority, and florished
through extraordinary
loue of all sorts
beyond any of
his time.

ffinis.

Vixit post funera virtus.

† Great grandfather of Sir George Morton.





The Welsh in Dorset.

By *THOMAS KERSLAKE.*

THE prospect from where we stand is one of those that usually take rank under the description of being one of the finest in England; and it certainly is one of the most beautiful of its kind. Other considerable towns boast of such a view from some neighbouring hill, which must be climbed to see it; few towns are, like this of Shaftesbury, so highly favoured as that its townsmen should be able to step over their own thresholds, as we have now done, into such a glorious scene.

But to such a party as the present—the Antiquarian Field Club of the county of which we now actually see the largest part—the picture has an interest which, though not so obvious to the sight, probably rivals that which is more directly presented by the picture itself. Mr. Barnes, in his paper just read, has done me the honour to refer to an example, which I was once so fortunate as to realize, of a phenomenon in the past social condition of the people of this country, of which I think I can point out another example in the district now in our sight.

The case referred to was that of Exeter :* within which city, we had been told by William of Malmesbury, that King Athelstan had found the Cornish Britons and the English settlers, living side by side, under "equal law." This had been interpreted, by Sir Francis Palgrave, Mr. Kemble, and other historians, as shewing that the river Exe, at the west of the city, had till then divided the two nations. But an examination of the still surviving dedications of the churches within that city made it evident that the Britons, having been pressed by their maritime invaders from the estuary, had maintained their hold upon the northern half of the city, which was divided by the Roman Foss-Way from the southern half held by the invading Saxons. In this case the distinctive Cornish dedications were St. Petrock, St. Kerian, St. Pancras, St. Paul (St. Pol de Leon, a Cornishman), and one of each of two duplicate Catholic dedications, St. Mary and Allhallows.

A hard and fast theory has almost reached the warmth of a furor, with the most learned of our historical writers of later years, that the present English nation is of purely Teutonic ancestry; that "our ancestors," as they delight to distinguish the intruding German nations, "entered upon a land whose defenders had forsaken it" † : that, as some go so far as to say, the Celtic populations were "exterminated," leaving to their subjugators little or nothing more than "the means of reproducing at liberty on new ground the institutions under which they had lived at home." The same unqualified assertion is also frequently quoted,

*Celt and Teuton in Exeter. *Archæological Journal (Institute)*, vol. xxx., 1874.

† Prof. Stubbs, Engl. Const. History. If the question upon which we are engaged had belonged only to the learned, such a declaration from so great an authority would have silenced our enquiry at starting. But, as we are all concerned with it, the appeal is open to us from things that are written to things that are.

as being that of another very learned and brilliant writer; and he seems at one time to have been inclined to maintain it entire. It is not fairly a matter of wonder that a writer whose habit must be a constant review of the raw material of history, over so many of its fields, from fresh points of sight, should sometimes start a newly-detected principle with an overstatement of it; or a broad announcement, unqualified by its exceptions. As the greyhound and the hare, so the eager pursuer of an unobserved principle in history must sometimes double back upon the truth which he has overrun. At any rate, upon this doctrine of the extermination of the Britons, the eminent writer is found to have either reserved, or later to have adopted, a very material qualification of it; at least in favour of Devon and a part of Somerset. †

But the misfortune of having disciples is that they are unable to afford a retreat; and their zeal is apt to make a firm stand upon the first-made assertion, and stoutly maintain its literal universality, and insist upon every detail. So with this about the extermination of the Britons. One writer says that "in Britain the priesthood and the people had been exterminated together." * The same writer also calls it "a world which our fathers' sword swept utterly away." † And the same assertion has been made the starting point of their new school of school histories. But compared with this startling assertion, the fabled catastrophe which a conflict, in the famous city of St. Canice, entailed upon its partisans would itself become almost credible; but that, unfortunately for the legend, both parties survive. Indeed, the city of Kilkenny presents at this day the very state of things which King Athelstan brought to an end at Exeter; for there, may be seen two nationalities, not only sharply divided, and commonly called "Irish-town" and "English-town," but so marked by lettering at the street corners; and a walk through the town can hardly fail to strike a stranger with other indications of the distinction. A

† Freeman's Hist. of Norman Conquest, 2nd Edn., i. 34, and in various places farther on in his work. Also in his paper read at Sherborne, 1874, on "King Ine," Somerset A. & N. H., Soc., vol. xx.

* Rev. J. R. Green, Short Hist., p. 29

‡ Hist. Engl. People, i., p. 32.

similar state of things may also be seen at Galway, and other great towns in Ireland.

It is believed, indeed, that this theory ; of the extermination of the Celtic peoples by the Teutonic invaders, or their almost entire replacement by expulsion, is, even in its more qualified form, very much beyond the truth : especially in the western half of the English speaking portion of the island : that at least the broad substratum of the rural population, and that of the non-commercial cities and towns, retain in blood, though not in speech, a very large Celtic constituent. Besides this, it is thought that it may be shown that there are scattered among them small, and perhaps frequent, insulations of undisturbed, and almost unmixed outliers of the older peoples. Spite of all the attempts to suppress it, the fact is obvious that much of our present advanced condition in the world and our personal character, of which even our physiognomy is one of the witnesses, have been derived from this people. Nearly all our cities, especially all the greatest of them, have come down from them to us in their uninterrupted vitality, and have even brought down to us the British names by which many times daily we still call them. These are, at least, rather more tangible than the townships or villages, said to be the channel through which the much lauded Forest Institutions have been transmitted to us from North Germany. A "hatred of cities" is among the almost boasted attributes of the invaders. But are the founders—and godfathers, if you will—of London, York, and Exeter, and the others, to be pushed out of the history of which these are the most illustrious subjects ; by the parasite or episodical history of those whom for politeness-sake we will call, unwelcome guests ?

But the surviving cities are few, compared with the much greater number of equally great cities, only known to us by their stupendous earthwork ramparts ; which, even to us, in this engineering age, are no more than objects of wonder and conjecture. Of most of these the very names have been totally lost ; and the fact that their vast areas must have ever been occupied by great communities of men, has passed out of

memory, and almost out of belief.* But this oblivion has not been the fate of the nation itself. Even a lost child, that can speak its own name, may be restored to its household and kindred: and the name of "Britain" is still known to all the world, and may claim its place in the history of the only land which answers to it. This earlier part of its family history is, however, obscure and difficult—its nomenclature crepitous and unclassical—and the grapes may be somewhat sour even to the fabricators of critical crotchets; for whom it may be a convenience to change the scene of the first act, from these hazy and mysterious traces of devastated greatness, by taking a stroll along with Tacitus through the transmarine "Forests of the North." But any such attempt to exclude so much as may be recovered of their history from its due place in that of our island, is not only an injustice to these, our joint "ancestors," but a great injury to ourselves, who have no reason to be ashamed of our intimate relation to them.

But were even the villages and townships, after all, imported from Germany? It is admitted that the institution of royalty was not brought over with the invaders, but that "war begat the king" after they arrived without him and credit seems to be claimed, for "our ancestors" of the sinister half of our pedigree, for the

* Of the fact, that the greater examples of what are now only known as "camps," were identical in purpose and origin with those that have survived as cities, we have an actual comparative exemplification within easy reach of us. The name of "Maiden Castle," Dorset, is common to it and other similar places, and, however ancient, cannot be its original proper name, but a later descriptive one. Old Sarum, with a Christian cathedral and seven or eight parish churches, is historically known to have come to the same completion. But the identity of purpose—that they are in fact skeletons of two individuals of one species—is self evident to any one who walks around the stupendous ramparts of both. Exeter, more happy, still lives as one of our brightest cities. Its British earth ramparts, surmounted by Saxon and Norman stone walls, had similar precipitous outer ditches; filled up for modern convenience within recorded time. Its name also is its British proper name, compounded with its Roman suffix, and both fused into the Saxon form, as we now speak it. The site shews the same principle of selection as the others; and remains of the same method of defence are still visible. What has kept it alive to our time is the accidental possession, in addition to the requirements of its founders, of those of mediæval and modern life: a navigable tidal estuary, a metropolitical position, and a salubrious climate.

Here, at anyrate, are three great cities, of co-ordinate and probably contemporaneous origin: But see their various subsequent fortunes.

invention, in their new home, of this keystone of a system, which it is contended that they brought complete and unshaken without it, across the seas, in their ships. It is no disparagement of our German ancestors to ask the question, whether they did not adopt a framework which they found, or reconstructed upon ruins which themselves had made? Among the most specious explanations of the possession of the property of others, and sometimes a valid one; is, the taking care of it, or the repairing of it—even the repair of the injuries received by its conveyance: and one of the strongest tokens of political sagacity is to adapt, to the wants of the present and future, the upshot of the past that has grown up to its work. This seems to have been an instinct of both of the two largest of our progenitor nationalities; and it is among the happy results of it that we still live. Referring, however, to the numerous material evidences already mentioned, of great municipalities scattered over the land; the absence of a corresponding apparatus for the occupation and rule of the wide rural territory, would have been a vacuum intolerable in social nature, and to any conception of it. These claims, on the part of our indigenous ancestors, are not meant to detract from the merits of those of the foreign accession. We owe much of what we are to both: many of what, without ostentation, we may call our virtues: and among these we have derived from both that sense of justice which forbids us to withhold our acknowledgments from either; and which, it is hoped, dictates the words upon this page. What is here being written is not in detraction of our Anglo-Saxon ancestors. These have had more able defenders: whose zeal, however, has sometimes tempted them beyond the just limits of that office, into that of excessive laudators.

However this may be, the crude and undiscounted doctrine has gone out as the only one to be taught for the future; and this evolved theory is promoted with all the zeal of a religious propaganda. The earlier history of our island—not only the Celtic but even the Roman scenes upon it—an essential section of the history of the English People, is ignored, or even prohibited, in school books; as being that of nations that are positively

foreign to us. The history of our own nation is on the contrary made to begin upon the European continent, and only tolerated as beginning here with the Teutonic invasion ; and the books, in which this mutilation has been submitted to, are lauded in journals that seem to have that special purpose : whilst every phenomenon that demonstrates our present relation to the subjugated races, is not only eagerly controverted but actively stifled.

It is now intended to give some reasons for believing that the group of mountainous hills, which bounds this prospect to the south, and which covers a large portion of the southern district of Dorset, is, or has been until comparatively recent times, one of the unabsorbed insulations, above referred to, of this more ancient people ; by the help of indications that are in like manner also found, in other such hilly fastnesses naturally favouring this condition.

At one of the earlier stages of the invasion of Britain by the West Saxons, these occupied the broad valley which lies before us, now known as the Vale of Blackmore ; and during more than one hundred years it must have continued to be their most western possession. The record of this is the Anglo-Saxon Chronicle. Their first landing had been more than fifty years still earlier (A.D. 495), at a place, called after Cerdic, the leader, "Cerdices ora," which has been variously explained as Charford, Yarmouth, and the mouth of the Hamble in Southampton Water ; but more probably was Hengistbury Head at the mouth of the Salisbury Avon : along the valley of which river they continued their fiercely contested advance, until in A.D. 552

they had taken Sarum. So that until A.D. 658, when they first* entered Somersetshire, by piercing the other chain of hills to our right, this vale must have been at their command.

Among the short and compressed notes, of which the earlier pages are made up, of that unique national record the Anglo-Saxon Chronicle, these two occur under the years 552 and 658, as almost all the history of England for those two years.

"AN. DLII. Now Kynric fought with the Britons at the place that is called Searobyrig [Salisbury] and made them fly."

"AN. DCLVIII. Now Kenwalch fought æt Peonnum [at Pointington, north of Sherborne,] with the Welsh and made them fly as far as the Parret."

Although above a hundred years apart, the relation of these two annals to each other is almost self-evident: and that during the century which intervened, from the year when the Britons fled to the Parret, a stage farther westward, from the chain of hills to our left, that constitutes the natural division of Dorset and Somerset, the extensive plain which lies before us was occupied by their West-Saxon invaders. This would be the case at whatever point of the western hill frontier they may have penetrated Somerset. Some have said this was by way of Penselwood. It has however been shown † that they must have entered the hill-frontier from Gillingham, about where the South-Western Railway now enters; and, having fought the Britons on Pointington Down, drove them along the valley of the Camel and the Yeo, until this river joins the Parret at Langport. During the same interval, as shown by intermediate annals of the Chronicle, they made other great advances north of Sarum; but our present concern is with this on the west. It is now intended to shew that, when they passed on to the conquest of Somerset, they left that southern hill district unsubdued: and there is reason to believe

* That this was the *first* occupation of any part of Somerset by the invaders, has already been shown in "A Primæval British Metropolis," (Bristol, 1877, pp. 45-57). But as the assertion, that the conquest of the Gloucestershire Cotswolds, A.D. 577, included the north part of Somerset, is still persisted in; a particular examination of Dr. Guest's topographical suggestions, by which it has been said to be demonstrated, is intended on a future occasion.

† Ibid., pp. 45, et seq.

that all southern Dorset and east Devon was not conquered until long after; was perhaps never conquered in a military sense, although afterwards, no doubt, more quietly, politically assimilated or absorbed. But the exempted district, here intended to be defined, is a still smaller and more permanent one. It not only turned aside the tide of the earlier conquest, but obtained a long continued recognition of its own separate existence; remained, until comparatively recent time, like some others of the kind, a sort of Little Wales; analogous to the greater Wales, which has conspicuously retained that name and its own distinct language to this day.

Among the dedications of churches in Dorset, only three are found that are Celtic, and common to those of that nationality that are now in Devon and Cornwall; and these three are all in the southern part of Dorset. They are at Milton Abbey, Alton Pancras, and Winterborn Farringdon or St. German. If the latter is included, we must however comprehend the southern range of high downs between Dorchester and the sea; which did probably share the exemption from the early military conquest, but not the continued smaller and specially recognised exemption here to be proposed. Milton and Alton, however, have Damnonian dedications which are most certainly distinctive, and within the smaller hilly district itself.

The dedication of Milton is almost a history of itself. It is one of the compound or stratified class that have accumulated with enlargements of the sanctuary, and the addition of new altars: St. Mary, St. Michael, St. Samson, and St. Branwallader. There can be little doubt that before it became an Abbey, there was already a sanctuary here in the name of St. Samson, upon which the other names have afterwards been accumulated. Such is always found to have been the case, when one of the names of

a joint dedication is that of a *primæval*, national, or local saint. In most cases the local name has yielded entirely to the pressure and disappeared altogether; drowned out by the more Catholic or Hierarchal system. The time came when a Catholic or centralizing policy became more active in the church, to which these local associations were felt to be repugnant; and these provincial and national names, upon which sanctity had been rather conferred by popular estimation than by official church authority, were discouraged or actually forbidden, under the pretext that they were barbarous; as indeed they may have seemed when the intercourse with foreign churches, and the preferences of foreign clergy to English churches became more prevalent. In some cases, however, the older name was tolerated, but in a subordinate place; either as a politic concession to the veneration of the neighbours, whose offerings were still worth having, or some of whose contracts stipulated a fulfillment or payment before the proper altar or shrine of the local patron. Tavistock had the shrine of St. Rumon or Ruan: but on becoming a large monastic foundation, the dedication became St. Mary and St. Rumon. In like manner Bodmin became St. Mary and St. Petrock. The same happened to the Teutonic dedications as well as the Celtic. Thus Ely became St. Peter and St. Etheldreda: Croyland, St. Mary, St. Bartholomew, and St. Guthlac: and many others.

St. Samson was a Cornishman by birth or family, and was a kinsman of the St. Pol., Bishop of Leon in Armorican Britain, already mentioned as being among the dedications in the British part of Exeter. St. Samson was also Bishop of Dol in Armorica, where the church of Dol itself, and others in that province, and in Breton Normandy, are under the tutelage of his name. He has also a church in Guernsey, one in Scilly, and two in Cornwall. Two near the borders of Wilts and Gloucestershire, at Cricklade and at Colesbourne. Before he fled to Armorica he is reputed to have been the last British Bishop of York, who was driven thence by the pagan Angles; and in the city of York there is still a church of St. Samson, which is the only one in

either England or Wales, besides those already mentioned that are all confined to this south-western promontory.*

This dedication of Milton Abbey is therefore a curious example of these accumulated ones. The other name, St. Branwallader, is quite unique. It is evidently a British name, but, although it is not to be found in any of the records of British saints, he is entered as a "confessor" under January 18 in two Anglo-Saxon Calendars; one of them, said to be one of the earliest English Calendars extant, appears to have been compiled at Winchester in the first half of the eleventh century. Again, in the Anglo-Saxon catalogue of the shrines in England, written about the same time, Milton Abbey is said to have had the head of St. Brangwalator, Bishop; and the arm and staff ("erice") of St. Samson, Bishop. William Worcester (A.D. 1480) was told, by John Burges a Dominican friar at Exeter, that St. Brandwellanus, a king's son and confessor, was buried at Branston, eight miles from Axminster; probably Branscombe near Sidmouth. But Branscombe has now the dedication of St. Winfred, the birth name of St. Boniface, a Saxon native of Damnonia. Serenus Cressy describes Branwallader as a "holy bishop," but "unknown;" and he is mentioned as "S. Brampalator episcopus" in Leland's abstract of another catalogue of shrines in England.

As to the added dedication of St. Michael, all that can be said is, that it is not unfrequent in Cornwall, is numerous in Devon, Somerset, Dorset, and throughout Wales; but then, as it is also abundant throughout England, choosing the greatest elevations, and in level counties, such as Lincolnshire, being satisfied with even such moderately high points as they offer, this one at Milton cannot be quoted as distinctive of race. But St. Michael is certainly a favourite Celtic dedication. In Wales it is the rival of St. Mary in frequency; and its great frequency in some parts of English England may be partly due to the continuations of

* It is, however, just possible that the two St. Samson dedications at Colesbourne and Cricklade may in some way be reflections of his connection with York, through Archbishop Aldred's (A.D. 1061-1069) dealings with Gloucestershire benefices. Both seem to be second or subordinate benefices, as if they had been chapelries or detachments from original benefices.

it being much tolerated by the Teutonic and Catholic super-strata as exempt from the imputation of barbarism or nationality.* Besides this, the heights which it affected are likely to have continued Welsh until later and Christian times. St. Michael is usually a short expression of "St. Michael and All Angels," and Welsh places so dedicated are often called "Llanvihangel." St. Gabriel is very uncommon, and St. Raphael almost absent, in the old dedications of England and Wales.

St. Mary, with her precedence of the others in the dedication of Milton, is of course the crowning expression of the later Catholic and monastic supremacy over those of tribal or local origin.

It can hardly be doubted that Athelstan found the Celtic dedications already associated with the spot which he chose. But it is not the mere survival of the two Celtic dedications of Milton that is its most notable circumstance. This it shares with many other outlying Celtic remains of the like nature, in those various parts of English England, that may also therefore be suspected to have been insulated nationalities. To this is to be added the well authenticated fact, that the same Athelstan, to whom is credited the policy of finally driving his British subjects from among his own Anglian and Saxon people, to beyond certain assigned frontiers; at this place he is observed to have actively encouraged the British nationality. It is recorded by various ancient authorities, and with variations that bespeak a certain amount of independence among them, that when he founded the Abbey upon what we have assumed to have been a pre-existent sanctuary of some kind, he bought and placed there many reliques of the Damnonian saints from transmarine Britain or Armorica; among which the most distinguished were the bones

* A place on the Wiltshire Avon, about three miles north-east of Stonehenge, has the dedication St. Michael, and is called Fighelden. It would be a brilliant triumph of Professor Rhys's consonant mutation test of chronology, if the change of "Michael" into "Fighel" would shew us, how late must have been the time when the people at this place in the midst of Salisbury Plain changed themselves from Welshmen to Englishmen. It sounds in neighbouring mouths something like "Foyle," and "Foyle" is a surname there.

of the "Most Blessed Samson" himself, who was was formerly Archbishop of Dol.*

This at Milton is not the only example of Athelstan's munificence to monasteries among his Damnonian subjects. In like manner he endowed and enlarged those at St. Burien and Bodmin. He appointed the native Conan as Bishop of Cornwall; and was a benefactor to the monasteries at Exeter, at Axminster, and others in this Celtic district; for so, no doubt, to a great extent it still was. Thus, in accordance with his imperial maxim, "*Gloriosius regem facere quam regem esse*," he abandoned the long-continued fruitless endeavour to exterminate, and, contenting himself with reserving the submission of their rulers and the exaction of tribute, tolerated within certain frontiers their self-government, and promoted their institutions. It was qualified by this policy of conciliation that, as actually recorded, he appointed the Wye as the boundary of the Cambrian Welsh, and the Tamar as that of the Welsh of Damnonia: that is, of those of them who chose to continue under their own national institutions. But, although these two are historically mentioned, as being among the most prominent examples; there is reason to believe that many smaller outlying Celtic communities, that he found in a state of concentration, mostly perhaps in hilly districts, were treated by him in like manner.

The recorded, and similarly confirmed, case of Exeter: that Athelstan actually found a separate Welsh community, living on equal terms side by side with a Saxon one, within the walls; is a testimony, that, in spite of all endeavours of his predecessors to suppress it, such a social state existed down to his time. But his having expelled and driven them beyond the Tamar, although an exception to his magnanimous policy, is not a contradiction of it. We are not without examples in our own times of disorders arising from the existence, within the walls of towns or cities, of two nationalities or even of two religions; but this expulsion would not have been so easy with a more open concentration; nor so necessary where the two peoples were not

* Will. Malmesb. de Gestis Pontt., Lib. II. 85.

forced together by such narrow and inflexible limits. This severe policy, being unnecessary for the indefinite and elastic limits of a country community, we here find the more liberal policy of the Saxon king not only predominant, but taking the form of active conciliatory encouragement.

In fact, besides being able to define Athelstan's toleration or protection of this as a Welsh district; we seem to be able, out of this very case, to reconstruct an example of his manipulation in carrying it into effect. We have already seen William Worcester's record of a tradition, which he had at Exeter from the Friar John Burges, that Brandwellan = Branwallader was buried at Branston = Branscombe, eight miles from Axminster. This Branscombe was bequeathed by King Alfred to his second son Edward the Elder, the father of Athelstan. We next find Branscombe among the formerly alienated manors, recovered for Exeter Cathedral by Bishop Leofric; and at this day it still belongs to the Dean and Chapter. Here we almost see Athelstan's hand at work in Saxonizing that broader district of East Devon and South Dorset, which as already suggested, had escaped the earlier conquest; and reducing his Welsh exception to the smaller and stricter limit above defined. In the course of this process, he includes this patrimonial manor in his munificent endowment of his monastery at Exeter; and, although leaving the name of the local British saint in the name of the place, removes his shrine to that of St. Samson at Milton, in his tolerated Welsh district; and the Church at Branscombe receives a new altar in the name which it still retains; that of the great West Saxon St. Winfred, the first Bishop of Mainz, who was still commemorated in the church at Exeter to which he had belonged.

About six miles west of Milton, among the same crest of hills, this continued British nationality is further confirmed by a second dedication, at Alton Pancras. Not that this is of tribal or non-Catholic origin, but it has manifestly become Damnonian or Cornu-British by adoption. In truth this island has received two distinct inoculations of the name, St. Pancras. A later one

than what concerns us was brought into post-British England by St. Augustine, who so dedicated the chapel, now a ruin, between the monastery of St. Augustine and the primæval church of St. Martin, at Canterbury; a church, the Roman-British origin of which is an undoubted historical fact. There is a repetition of St. Pancras in Kent, between Dover and Canterbury, at Coldred by Sibertswold.* Two St. Pancrases in London may be attributed to Augustine's companion, Mellitus, the first Bishop of London. There are also three in Sussex; and one at Wroot in North Lincolnshire. This last is probably due to Oswiu of Northumbria, to whom Pope Vitalian sent reliques of the Roman Pancras. It is most likely, however, that these two distinct importations of this name—the Roman-English of St. Augustine, and the British of Damnonia—are commemorations of two different Catholic saints, of the same name, of two different ages. That of the east of England was of course the Roman one of the fourth century; whose day, in the Roman calendar, is May 12. This patron of so many churches in West Britain, was more likely to have been the earlier one; said to have been made a Bishop and sent into Sicily by the Apostle St. Peter, and martyred at Taormine in the first century.† He does not appear in western calendars, but is found in the Greek Menologium under February 9. Another curious example of a præ-Saxon Catholic dedication seems to have puzzled Augustine and Gregory, at finding it already in Britain before their mission. Instead of their own Roman Martyr, Pope Sixtus (Aug. 6), to whom they took substantial care to appropriate it, he may have been St. Sextus, a Sicilian Martyr (Dec. 31), or St. Sixtus, an Apostle of the Gauls (Sept. 1). The preference of the British Christians for the eastern calendars is confirmed by another example; the frequent occurrence in the dedications of Cornwall, Devon, and Wales, of the martyrs SS. Julitta and Cyricius: =Syriac in Cornwall, =Cyres in Devon, =Curig in Wales.

* *Ferrostraticò* "Shepherdswell."

† Baronii Ann. A.D. 44, quoting Metaphrastes.

At any rate there is a distinctly separate geographical area of a St. Pancras over the south-west of England, all in the Damnonian province; which must therefore be attributed to this earlier Celtic transmission. The intimate intercourse of the Damnonian and Armorican peoples, and their apostles or missionaries needs only to be referred to. The same dedications and place names that are found in one are constantly repeated in the other; including this of S. Pancratius. The western insular ones of St. Pancras are:—Five in Devon, and, although none have been found within Cornwall, two of these are on the Tamar, north and south; and one of them is in the group of dedications within Exeter that marks the *præ-Athelstan* Celtic quarter of that city. One is in the Dartmoor highlands, where Celtic blood still predominates. Although another Devon one is on the border of Dorset, east of Axmouth, the only one within Dorset is this at Alton, about which we are now engaged. In Gloucestershire was an anciently extinct chapel of St. Pancras attached to Winchcombe Abbey, and another, an extinct parish now absorbed into Marshfield; but none throughout Cambrian Wales; nor elsewhere in England besides the Roman ones above recited, except “Pencrich Hall,” formerly at Oxford; which, if a “Pancras,” would of course be only a reflected provincial association, like Exeter College and Lincoln College are now.

The community of these Damnonian saints with those of Armorica, or the continental Britain of the opposite coast of the English Channel, comes very distinctly into view in a Litany, printed from a MS. of the tenth century in the *Vetera Analecta* of Mabillon, and reprinted by Messrs Haddan and Stubbs.* Among the saints suffraged in this Litany are “S. Pancrate,” “S. Samson,” “S. Branwalatre,” and “St. Jullita;” and, although not so narrowly national, “S. Germane,” the name with which we are next concerned.

*Councils, II., p. 81.

There is, about ten miles southward from the two already noticed, another dedication connected with præ-Saxon Britain, and which is found not only in Cornwall, but in other parts of the island where Celtic associations survive. This is at Farringdon, or Winterborne St. German. Of this, although the church is a ruin, it has still so much vitality as to confer upon the Rev. W. Barnes the venerable dignity of a Pluralist. We must, however hesitate to include this within that compact ideal limit of the district recognised by Athelstan. True, it was fortified from the perils of the coast by the great natural rampart of the southern downs of Dorset, but is separated from the hilly group above described by the valley of the Frome and Piddle. It would also include the town or city of Dorchester, too important to have been comprehended in such a toleration or concession. No doubt it shared, with the south of Dorset and the south-east of Devon, of which the St. Pancras already mentioned near Axmouth is another witness, an exemption from the earliest western progress of the West Saxons ; but cannot be included in that smaller territory of a more concentrated Welsh population that is here being defined, and which could have exacted the recognition of its national independence. At any rate, the ethnical status of this præ-Saxon dedication may be most safely left to the care of Mr. Barnes, who has the spiritual charge of it.

So much for the testimony of the dedications. But there are two other circumstantial and independent ancient witnesses, by which it is thought to be strongly confirmed. The first of these is, that among the interval annals in the Anglo-Saxon Chronicle, between the conquest of Sarum in 552 and the victory at Pointington in 658 ; is one which has involved, for the last two centuries, one of those controversies that infest the topography

of the age in question, as to the part of England in which is situated the actual place named in the record.

"An. DCXIV. Now Cynegils and Cwichelm fought on Beandune and slew two thousand and 65 Welsh."

This was read for "Byndon," Dorset, by Camden (1587); as it had ten years earlier been read by Lambarde.† But Gibson, when editing the Saxon Chronicle, says that all the copies he had used have the name with an *m* "Beamdune." He therefore prefers Bampton, Devon; and is approved in his view by R. Gough in the Additions to Camden. Out of this removal has been lately started another, to a third place. It is now said the battle could not have been at Bampton Devon, because the Saxons had not yet advanced so far to the west; therefore it must be the Bampton in Oxfordshire.

Since Gibson, several MSS., including what is said to be the oldest,* have been brought forward, with the reading "Beandune." So also read Florence of Worcester, Henry of Huntingdon, and Leland's extract from Marianus Scotus. Moreover, although it is not to be denied that "-don" and "-ton" are sometimes converted; it is believed that this does not happen so generally as the convenience of such changes has tempted interpreters to assume. The original appropriation by Camden of this name to Bindon, in Dorset, may therefore safely replace that of Gibson's even on its philological ground: and his historical argument that all the Britons had already fled for safety into more western parts of England, it is thought has here been confuted. We find them here in the very place where they were in immediate contact with Wareham, a favourite landing-place of their disturbers. These doubts, indeed, could never have been raised, if it had been yet observed that the Saxons were at this very time making their way towards Somerset by this route through Dorset; and that, as we now see, they were still flanked by an unconquered district of the

†Dict. Top. (1577), first printed 1730.

*See Mon. H. Br., p. 306, and Pref. p. 75., and Anglo-Sax. Chron., Rolls ed., vol. i., pp. 38-39.

invaded Britons. The later historians seem too readily to interpret these records of battles as complete and permanent subjugations of the districts where they have occurred; including all the country that would be bounded by a right line extending on both sides of the place of conquest named. The slaughter of over two thousand shews a hard fight, but if it had been even a victory, it was not an extermination or subjugation of the nation.

There can be no doubt that this conflict of A.D. 614 was an incident of an attempt to penetrate this yet unconquered southern part of Dorset, by a landing at Wareham, and an advance along the valley of the Piddle and the Frome. The place was no doubt Bindon Hill, now popularly known by the descriptive name of "Swines-Back." It is a westward continuation or resumption of the chalk ridge of Purbeck, but completely insulated and precipitous on all sides. The table area is very large, nearly two miles in length, fortified around, and with transverse embankments. It lies due south of the Milton Abbey district, and is separated from it by the valley which leads from Wareham up to Dorchester. As Cwichelm now first appears in the Chronicle, and in conjunction with Cynigils, it was probably an assault by one of them, in support of an attack by the other from the north. However, laying all speculation aside, here it is quite certain, that we have it on record, that, in the interval century, between the conquests of Sarum and of Somerset, the two nations are found together, in actual conflict in the intermediate country.

The other probable external confirmation, of the two above promised, is another ancient document which may or not relate to this very district. But whether it does or not, it certainly contains a contemporaneous picture of such a community, and positively demonstrates the existence of the social condition that we have endeavoured to exemplify.

A very learned writer,* who has been a pioneer of the sources of English history for later writers, has by some of these been recommended "to be used with care," and to be "read with caution."† This, as we shall see, is very good advice; but may be extended to most of the later writers about these early times, and not only to Sir F. Palgrave, who was a most learned, original, ingenious, and interesting writer. He has been followed with more than equal steps; although others of his followers are far behind him. At the risk of being reminded of the latest [Amen.] demise of a Sovereign Queen, it may here be said that the more recent work, known as "The History of the Norman Conquest of England," by E. A. Freeman, D.C.L., &c., if not the greatest book of the present generation, is one of not more than the two or three greatest. Perhaps, however, in such comparisons some "law" is due to the first who treads the clods of a field never crossed before. Among the many authorities with which Sir F. Palgrave's marginal references bring a reader, most likely for the first time, acquainted; one turns up from time to time as the "Devonian Compact." To any one in this quarter of England, a strong desire is raised to know more of a document with this unheard of title. But it is only in the supplementary volume‡ that it comes to light, what the document is, and why the author has given it this new title.§

In the collections of the Anglo-Saxon Laws|| is printed a short international Code ("gerædnes") or agreement of a Witan of

* Sir F. Palgrave, *English Commonwealth*, 1832. Also his *History of Normandy and England*, 4 vols.

† Rev. J. R. Green, both his *Histories of English People*.

‡ Engl. Comm., Proofs, cccxxiii., and cclxiii. Also Vol. I. p. 464.

§ This method of usurping the place of long received titles of ancient texts by new ones by means of persistent unexplained iterations, leaving the reader to gradually find out for himself what is the monument really quoted, is not unfrequent among the learned of the present age. In his *Short History*, Mr. Green continually cites what he calls, and declares to be "now known" as "The English Chronicle," for what has always been known to all the rest of the world as the "Saxon" or "Anglo-Saxon Chronicle," and it is only far then on in his book that he condescends so far as to admit the words ("or Anglo-Saxon") in a bracket for the tardy help to those who are unlearned in the innovation.

|| Lambard 1568, in *Anglo-Saxon*, with Latin translation; republished by Whelock, 1648; by Wilkins, 1721. *Public Records*, with English by Thorpe, 1840, folio, pp. 150-152.

the English and a Council of the Welsh, settled among the "Dunsæte." Lambarde, the first editor, appears to have used a manuscript no longer known; perhaps lost in the Cottonian fire. His printed edition is consequently the only authority for the Anglo-Saxon rubrics, including the general title of the Code and the titles of the nine sections or clauses. In the chief title he prints the word or name of the people concerned, with an interpolated letter *e*, "Deun-sætas," for which reading this rubric is the only authority; and although the name re-occurs three times in the body of the Code, in all three he prints it without the added letter. Besides this, in his translation of this rubric itself he renders it, as if it had been a word and not a name; "Dunsæte" = "Monticolæ" or Mountain Dwellers, disregarding the surplus letter, which therefore, if in his MS. at all, was only in the rubric.

Yet it was upon this one various reading that Sir F. Palgrave raised his theory that it was what he was justified in quoting as the "Devonian Compact;" that it was in fact a treaty between the West-Saxons and the Dumnonian Britons, locally neighbours in Devon. Perhaps, as he considered, an actual example of the social condition which William of Malmesbury describes as being what Athelstan found, and brought to an end, at Exeter. As, until quite recent times *u* and *v* have been identical letters, or used indifferently by ancient scribes one for the other, Sir F. Palgrave adopts it as an authority for an ancient form "Devn-sæte," and for saying.* "The Anglo-Saxon or English settlers" in Devon "acquired the name of Defensættas." And by this name he continually calls them; and this arbitrary and erroneous innovation, founded solely upon this doubtful authority has already taken root and been adopted into the most current modern histories of those times. Mr. Freeman often writes of "the Defnsætas and Sumorsætas," and continually uses the former, as the matter of course ancient name of Devonshire men. Although, with that constant regard for facts that are even exceptional to his own foregone judgment, which a seeker of the

*Proofs cclxiii.

truth can well afford to satisfy; he brackets into a second edition as "something singular" that various passages that he quotes should still contain the form "*Defenascire* along with those of "*Sumersæte*" and "*Dorsete*."†

It is not however without reason that Mr. Thorpe, in his note on the rubric‡, gives his opinion that the interpolated *e* in Lambarde's edition was "either a clerical or a typographical error." But next comes the question whether "*Dunsæte*" is merely a descriptive word, to be translated; or the proper name of a particular people. The Anglo-Saxon text is printed in the Public Records Collection of 1840 from a MS. of the tenth century, * but there is also printed || an ancient Latin version from three MSS. of the thirteenth century, and in this it is given as a name, without translation. It was Lambarde who first translated it to "*Monticolæ*;" and he is followed by Wilkins. Mr. Thorpe in the Record Collection, transfers the name, without translation, into his English translation; but in his note he explains it to mean "Mountain dwellers."

The truth in fact is that there never was a people called "*Devnsæte*." The "*Sumorsæte*," the "*Durnsæte*," and the "*Wilsæte*," were no doubt so called from some circumstance in the conquest of them, as having been more simultaneously or broadly colonised or *settled* by the conquerors. There is, however, no original precedent for the suffix "*-sæte*" for the Devonshire settlers. It is believed, indeed, that the area of the earlier occupation of that province by the Saxons has been much over-estimated. The received theory is that the early dynastic or political advance of the Saxons westward, continued into Devon as far as the Exe; either by way of Dorset, or more northward from Somerset. Mr. Kemble says: "As the Saxon arms advanced westward, Exeter became for a time the frontier town and market between the British and the men of Wessex:" evidently meaning, as the other later authorities also appear to mean, between the West-British kingdom and the West-Saxon

† Norm. C. 2nd edn., vol. II., also 564, 158 and 315. Palgrave, cclxiii.

‡ A. S. Laws, Pub. Rec., 1840, fol. edn., p. 150.

* p. 150

|| p. 530

kingdom: that the great political body of the West-Saxons had progressed westward so far, and occupied in their march all the country, to their right and left, from sea to sea, or nearly so. But from what is here being laid before the reader, it will be seen that the frontier of Dorset, that was contingent to Devon, still maintained its British nationality; whilst, failing the Devon-Bampton Annal above disposed of, there is no record whatever of any approach from Somerset. The Annal of 682, of Centwine's having driven the Britons to the sea, cannot apply to this, as there is no sea in the path; and William of Malmsbury calls them the "North Welsh." The earliest recorded dynastic movement, farther west than our Somerset, is that of Egbert, A.D. 813, when he harried "West Wales from eastward to westward." "West Wales" here includes all Devon, and not Cornwall only as generally supposed: thus there is some importance in the words "from eastward to westward," which they would otherwise seem to want. "Harrying" does not seem to be an operation suitable to his own subjects, even if they had been in rebellion.

Much intercourse of the two nations had already existed, independently of the compulsion of the two races into one political body under advancing kings. The frequent examples of fugitive Anglian and Saxon exiles, from wrongs of their compatriots, to the protection of the Britons, prove that the wars were rather political or dynastic than tribal. The Annals are indeed mostly of the acts of the kings or leaders, and the events they record are not always conflicts with one nation, but subjugations of both to one sovereignty. Two independent and indisputable facts—the birth of St. Winfred—Boniface, and the family of St. Sidwell—shew that, as early as A.D. 680-700, settled Saxon families were already living around Exeter; so that no doubt a considerable colony of them, or a sort of Littus Saxonicum, had existed about the estuary of the Exe, and perhaps at other points along the country between the sea and the highlands, more than a century earlier than any inland dynastic subjugation. And in this view we are not entirely forsaken by our old allies, the church dedications, along the mountainous

frontier that divides Devon from both Dorset and Somerset. A St. Pancras, east of the mouth of the Axe, has been already named. There is also a St. Paul (St. Pol) at Church Staunton, and a St. David at Culme David, both in the valley of the Culm behind the Black-Down Hills; and north of Honiton is a hill called "St. Cyres," but with no remaining chapel. North Devon and West Somerset, or the Exmoor district, led up to by this chain, needs no consideration here. The multitude of St. Michael's in Wales has been already noticed. It is equally frequent in the English western counties, but those that are in Dorset are most crowded in the southern district, and the same increased frequency extends into the adjoining district of Devon, between the Axe and Exe.*

Reverting to the Code; the existence of such small outlying Welsh populations, as we have been considering above, had never yet been vividly contemplated; and interpreters of such questions as that presented by the Code of the Dunsæte have been therefore narrowed, in their field of enquiry, to the two greater race divisions that are historically recorded, and that are more obviously still living beside us: Welshmen and Cornishmen; whose existence even the most zealous exterminationists have not yet been so bold as to deny. To those, therefore, who have hitherto considered this monument, and who had rejected it for the Defnanian or Damnonian tribes, there was no choice but the Cambrian or Silurian ones. A neighbouring people, called the "Wentsæte," is mentioned in the Code, as if only lately annexed by the West Saxons; of whom it is said: "Somewhile the

*Mr. J. B. Davidson (Trans. Devonsh. Assoc., 1877) has pointed out the remarkable prevalence of "-minster," as a constituent of place-names, such as "Axminster," over a certain continuous area of South Somerset, West Dorset, and East Devon. This he attributes to King Ina; but that is most likely about 150 years too soon. But it strongly indicates a simultaneous Saxonization. It fringes the district under our consideration, and is included in what King Alfred still called the "Welsh-kin." Two of them, "Stureminster" and "Exanmynster," were bequeathed by Alfred to his younger son, Edward the Elder. Sturminster is believed to be the same place which Asser had formerly called "Leonaford," i.e., Alaunaford, the ford on the Stour or Alauna; where was the royal house in which Asser spent eight months in reading with Alfred. No doubt these "-minsters" commemorate foundations by Alfred, and that it was after his memorable hospitality to Asser that he founded Stour-Minster at Leonaford.

Wentsæte, belonged to the Dunsæte, but [now] more rightly they belong to the Westsexan." Here, two local tribes or septs are evidently spoken of. Lambarde and Wilkins, place their Wentsæte in Dimetia, roughly now comprising the diocese of St. David's. Mr. Thorpe suggests Athelstan's decreed frontier of the Wye as the point of contact of the two nationalities concerned in the Code. Although he does not mention Gwent, Monmouthshire, he seems to have been attracted by that name as the probable equivalent of Wentsæte; but "Gwent" is common to this and many other British districts. He may also have been slightly influenced by the neighbourhood of the "Magesæte," about Herefordshire; * the only example of the suffix "-sæte," besides Dorset, Somerset, and Wilset.

The date of the Code is uncertain. Wilkins conjectures it in "tempestate Ethelradi Regis;" but whatever may be its date, it must have been far too late for the Cambrian Gwent to have adjoined any people that could possibly have been called "West Saxons." A "stream" is also mentioned in the Code, as if it was the boundary of the rights of the two peoples. Sir F. Palgrave had adopted the river Exe, in conformity with the theory which he had raised out of the recorded joint occupation of Exeter, that the course of that river had divided the two races of Saxons and Cornish-Welsh, east and west, in Devon; but it has been elsewhere shewn that in Exeter they were divided, north and south; and both, as far as that city is concerned, were on the east side of the river. Mr. Thorpe adopts the Wye as the stream suitable to his conjecture. But the nine sections of the Code are evidently not only calculated for a particular and limited locality, but the most important of them relate to strayed or stolen cattle, "over a stream," from either people. It may be a question whether both rivers, the Wye and the Exe, at the parts required, are not too large for a "stream" requiring a special legislation for stolen cattle.

* This trace of a West-Saxon peculiarity seems to favour a belief, that Herefordshire="Ffery llwg" was the "Feathan leag" of the second advance of Ceawlin A.D. 584, instead of the Severn Valley and Cheshire, as proposed by Dr. Edwin Guest.

So much for the two proposed locations, in Damnonia and Cambria, evidently confined to the choice between these, because no other was thought of as possible, by those who only looked to written history for an example of a neighbourship of the two nationalities sufficient for the conditions of the Code. It is thought that the survival of a smaller Wales within Dorset, now brought forward, better satisfies these conditions, whilst it requires scarcely more indulgence for the philological difficulty as to the name "Dunsæte." If what Sir F. Palgrave ventured to say upon most doubtful textual authority, we may be allowed to do by pure conjecture, fortified by external probabilities; if we may introduce a single letter and write "Durnsæte," we shall have before us a document which is not only a confirmation of what has been said, of the insulated people, from an independent consideration; but which itself is unable to be otherwise satisfactorily accounted for. It must however be at once confessed that this sort of interpolation of a letter into a proper name is, in any case whatever, one of extreme danger; and the convenient flexibility of interpretation imported by this practice, has already been much abused, and may be again, if too readily admitted. If the absence of the letter wanted was caused by an error, the error must have occurred in the prototype of every existing text, and must have occurred three several times in the course of the document.

The questions also remain: Who were their neighbours the "Wentsæte"? And what was the "stream" that seems to have divided the English from the Welsh? We have, in our own Dorset-Welsh district proposal, a choice upon both these questions: but in such matters a choice is an embarrassment and not a privilege.

Eastward of our Welsh district, is another, in which the name ingredient of "Wim-" or "Win-" appears. Several authors, struck with the repetition of the name "Wimborne," for places through the whole course of the river Allen, have reasonably concluded that "Wimbourn" had been the name of that stream. The present name "Allen" is no doubt a relic

of the Ptolemaic name "Alaunus" for the group of rivers whose outlet is Christchurch harbour, as the Salisbury [A1-] Avon is another. An English alias, "Wimbourn," must have prevailed long enough to name these places, but the ancient name has reasserted itself. The Stour, however, retains its still older Celtic alias. This district may be rather distant, from our Welsh one, for the neighbourhood of the Wentsæte implied in the Code: and without other links the hold of relationship of "Win-" and "Went-" would be somewhat infirm. The Stour also which divides them is here a considerable "stream."

Another view may be presented by the fight at "Beandun," A.D. 614, already noticed. This makes it almost certain that the invaders had landed at Wareham, and already possessed themselves of the lower country between our hill-district and Bindon Hill, through which the Frome runs to Wareham. Was this district, and the Isle of Purbeck south of it, the land of the Wentsæte which had been already annexed by the West-Saxons when the Code was enacted? and was the Frome the stream which divided them? This view has also some slightly possible philological support. The labial convertibility of *W* and *B* is well known, and this would give us "Win-" in "Bindon"; also repeated farther west in the district in the name of "Bincombe." What if the slaughter of the Britons at Bindon was a victory; and the occasion upon which the Wentsæte which had formerly belonged to the Dunsæte began to "belong to the West Saxons"? The "great ditch," mentioned by Hutchins, as "near Pokeswell quarries," and thought by Dr. Guest to have been a "Belgic ditch," may have been a part of this international arrangement. It probably extended from the well known ravine* of Osmington Mill, across the Frome, and perhaps the Piddle; and would account for the survival into Saxon Christian times, of the Celtic St. German's dedication to the west of it. This

*About half-a-mile west of the Osmington outlet, is a fragment of a fortress, unnoticed in Mr. Warne's Ancient Dorset. The largest part appears to have gone over the cliff into the sea. The rampart seems to have been formed of chalk brought from a spot adjoining, but the cliff itself does not appear to be chalk.

dyke would correspond with the western boundary of the present Hundred of Winfrith. May not this name "Winfrith" have been *Wentfreoth*, or the *Liberty* of the Wentsæte? It had the ancient forms. "Winfrode"* "Winfrot" and "Winford."† The territory of the Wentsæte recorded in the Code, as having formerly belonged to the Durnsæte but now to the West-Saxons, would thus be the entire peninsula, south of the Welsh hill district; containing the Hundred of Winfrith, the Liberty of Bindon, and Purbeck Island. But a part of the low heathy country north of Wareham itself, and between it and the hill districts might also be expected to be necessarily occupied by the invaders possessed of Wareham; and this seems to be indicated by another dyke, by all writers hitherto described as one of the Belgic Dykes, commonly known as "Coombs Ditch," which, extending from the south-east escarpment of the Milton range to Lytcheat bay in the Wareham estuary, would be the north-eastern frontier of the Wentsæte. The ditch is described as being on the east of the dyke.

Looking again at these two suggestions of the actual territory of the Wentsæte, the last seems to be the most acceptable. All that it requires is; that the West-Saxon possession of it was the result of the fight at Bindon, A.D. 614, which is almost self-evident; and the small, but important, concession, that the name "Durnsæte" has, at some early time, dropped one of its letters.

On the whole: if the question had depended entirely upon the correct form of the name being "Durnsæte," we should hardly have been justified in attributing this Code to the district we have been considering. But the external probability, furnished by the parallel of the circumstances of the place to which the Code must have belonged, with this district of Welsh among the Durnsæte, may be thought to be sufficient to identify them. The question is much narrowed by the certainty that both the Code and our Welsh district are within the West-Saxon territory; and the Code was evidently intended for such a circumscribed locality as we have, by separate independent inferences, found this to

*Domesday, both Exchequer and Exeter.

†Testa de Nevill.

have been. At all events, the Code adds to William of Malmesbury's traditional record of the Exeter case, the still stronger testimony of a contemporaneous written monument of the actual existence of some such a social condition. It is not a national statute, but of the nature of what we call a "By-law," or a sort of mere local police regulation for the protection of the property and rights of individual neighbours. The court of resort is appointed, in case of need, to be twelve men, six of each nationality.

What we have here endeavoured to realise, is only a single example of what may be called ethnical islands; of which Cornwall and Wales are as the continents. But, besides these, without doubt, a vast broad and deep social substratum; extending backwards for many centuries beyond written history, and forwards down to our own times, was underlying all the dynastic conflicts that have disturbed and striated its surface. Sometimes no doubt these have produced great local upheavals: have altered or mixed it for some depth; or in some cases actually denudated it. But invaders would have a barren conquest without taxpayers and subsidists, and tillers of the soil, and even soldiers. Even now relics of præ-Saxon and præ-Christian customs, superstitions, and traditions, not to speak of stray parts of speech, nor again to boast of nobler heritages, remain to identify the latest metamorphosed outcrop with the earliest formation. The Romans might have had some pretext for calling this people barbarous; certainly not the Saxons. Why these Saxons were far greater laggards, even in the acceptance of that great and obvious movement which was changing the face of the world before their eyes, than were their predecessors. Witness the multitude of those dispersed intellectual centres, more


lately organised into what we know as the parochial system, that had already so plentifully taken root among the Celtic people long before the Teutonic intruders came. And these were certainly very numerous among them, as may still be seen in Cornwall and Wales, where the primæval dedications of churches have been almost undisturbed. Besides this, there is nothing to shew that this wide-spread social groundwork was not imbued, from extremely remote times, with the political sort of civilisation before indicated; nor that culture itself, although a different thing, has not to a great extent sprung out of it. Literature and the Arts of Ornament or Magnificence, are the instruments of an awakened ambition to be known to posterity, and to be admired by the world; and have been superimposed or grafted upon it; but the broad and unfathomed substratum—the great storehouse of unexhibited and unhistoried human affections and cares, and joys and griefs—still lies under. Wells have been sunk into it, by such as Wordsworth, or Crabbe, or Barnes; who have brought it into rivalry with the upper culture itself. Other springs, unmixed, have risen through it by their own native energy, as Burns: and one, most abundant, has not only risen through the superincumbent culture, but has overtopped and deluged the entire surface of it, and permeated or infiltrated the whole. To himself, to his friends, and to his neighbours, though not to us, Shakespear would have been Shakespear if he had never handled a pen nor seen paper. So also there are many more saurians latent in unexplored rocks, than what are to be seen upon the walls of museums.





The Ennobling of Beets.

By Professor J. BUCKMAN, F.G.S., F.L.S., &c., &c.

T the meeting of the Club at Weymouth, on July 2nd of the present year, amongst other plants was observed the *Beta maritima*, common Wild Beet, which we then got up by the roots in order to demonstrate the fact which we were then proving by experiment that this wild beet is the parent, not only of different sorts of garden and field beets, but also of the Mangold Wurtzel of the farm.

This root was shown to have a succulent centre, but was only about an inch in diameter, and very much forked, whilst the ascending axis instead of presenting a single upright stem was branched, and some of the branches trailed upon the ground.

Now as we had some years since instituted a series of experiments upon the ennobling of the Wild beet which we are this year repeating, and as besides, a friend of ours has been at work at the same subject, we beg to lay the details of this work before the club, which we are enabled to do illustrated by a series of drawings which we were enabled to make from real subjects—both wild and cultivated—and which have been faithfully engraven by Mr. Worthington Smith, for the expense of which we are indebted to a friend who does not wish his name published.

More than a quarter of a century has passed since we first commenced a series of experiments in the garden of the Royal Agricultural College, at Cirencester, on what we then termed the

ennobling of plants. These experiments, at the request of the British Association for the Advancement of Science, were reported to that Society, the last report having been made at Oxford in the year 1860.

On this occasion no less than 200 plots were referred to, consisting of the following:—

					Plots.
Agricultural Plants	..	..	..	..	50
Medicinal Plants ..	..	..	..	..	30
Esculent Vegetables	..	..	..	..	20
Grasses (old and new Plots) ..	..	..	..	..	60
Miscellaneous Plants	..	..	..	..	40
Total					200

We now refer to three sets of experiments then reported upon as aiding us in the discussion of the subject of our present paper. They were —

1. The production of a new and distinct crop of parsnip from the cultivation of the *Pastinaca sativa*. This has been since known and appreciated under the name of the Student parsnip.

2. The production of sorts of broccoli, cabbages, and greens from the wild cabbage (*Brassica oleracea*), gathered from the rocks overhanging the sea at Llandudno, North Wales. Of this latter we published a subsequent report in the *Agricultural Gazette* for 1861, as we were too late for the meeting of the British Association at Manchester. Seeds of a distinct sulphur broccoli and a curly green were subsequently sent to Messrs. Sutton & Sons, but we believe that the broccoli was not sufficiently permanent, but the green is still in cultivation, and has proved the hardiest kale in the garden during the past trying season.

3. The mangel reported upon in 1860 and 1861, had reference to experiments with well-known sorts of mangels, and also with an attempt to ennoble our wild *Beta maritima* from which we quote the following:—

“Plots F. and G. Wild Beet.—I confess the at present forked roots look but unpromising, but when I go to the kitchen garden and examine the roots of the white beet, which is only grown for its leaves, which are used as a garden vegetable. I see that they are no better. It is only in growing for roots that you get them of the right form.” †

† *Agricultural Gazette* for October 26, 1861.

After the time mentioned, the experiments of which these formed a part were brought to an abrupt conclusion.

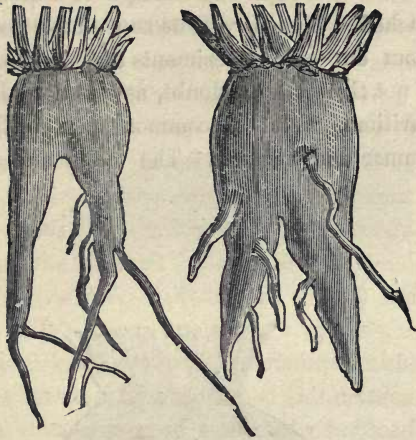
But as regards the proof in the case of mangels, it fortunately happens that a friend of ours has within the last five years occupied himself with the same set of experiments that the enlightened authorities of the Royal Agricultural College so ruthlessly brought to a termination some seventeen years since.

Every one knows the *Beta maritima*, the wild beet, so common to our seashores; it is usually figured with a thick fleshy root; it is so drawn in *English Botany*, vol. viii., fig. 1184, this being a copy of previous figures. The same figure is recently copied in Bentham's *Illustrated Hand Book of the British Flora*. We mention this because we have never seen truly wild examples of beet but what have been extremely digitated with long, fleshy, flexile, forked roots, having but little about it to indicate the fine forms which, by cultivation, the beets and mangels as crop plants are made to assume.

But besides this tendency in the wild plant to excessive forkiness in the root, it also grows many heads or crowns. If, therefore, our readers will contrast this state of things with a refined mangel which is absolutely free from forkiness in the root, which latter is large, round, and smooth, with a skin as smooth and delicate as that of a lady, and instead of presenting us with a divided head, this portion of a well-bred mangel is reduced to a single bud, the leaves of which are small and delicate, and not at all the rough objects we see in the wild plant.

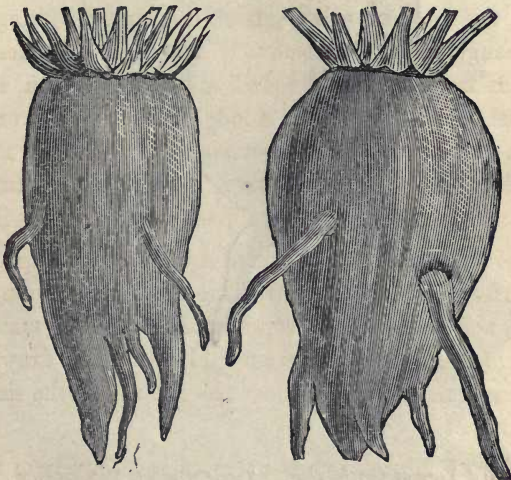
Our woodcut has been executed by Mr. Worthington Smith from a series of drawings which were made by us from original specimens, and may serve to represent the progress made in the formation of mangel wurtzel from wild beet. The drawings are eight in number, and all of them are about half the size of the original roots.

The series of figures represent roots respectively of the first year, of a second year's plant, in which the upper part is approaching the thickness of a bulb, and of the third year, all having



Wild Beet. Natural Size.

a tendency to produce many crowns, or bunches of leaves. The next figures show great advances in size, fleshiness, and bulboid



First Year of Cultivation of Wild Beet. Natural Size.

contour ; and the last is rather an example of a desired form to be ultimately reached. That it will be so we have not the slightest doubt as, from our own experiments and those of our friend, we have now not the slightest doubt, as stated by Bentham, that the *Beta maritima*, "Not uncommon on the British coasts, flowering summer and autumn. The white and red beets or

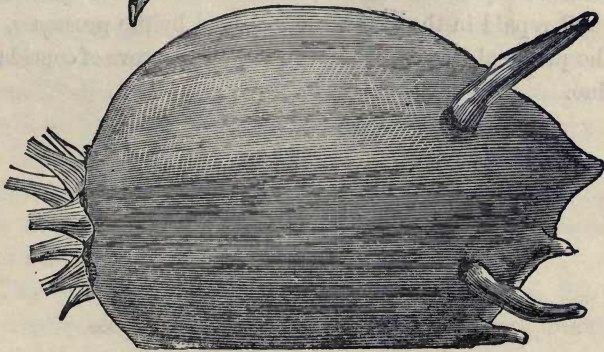


Third Year of Cultivation. Two-thirds of Natural Size.

beetroot of our gardeners and the mangel wurtzel (root of scarcity) of our agriculturists are cultivated varieties of this species." †



A well-formed Mangold Wurzel. Half of Natural Size.



Fifth Year. Two-thirds of Natural Size.

† Bentham, vol. ii., p. 701.

In practice we find yellow, orange, red, white, and mixed beets and mangels; and it is curious to mark that the wild seed produces all these forms, so that it is just a simple matter of selection as to whether you will grow them all or keep to a single type. This is no mere matter of speculation, but one of great practical interest and importance, as by due selection very different strains may be produced. Again once having developed a peculiar strain, it can be kept intact by judicious selection, and it is in this way that the different types of roots met with in the market are kept so true to the character to which they have been made to arrive at.

The production of new varieties can thus be brought about, and when it is seen how much greater crops often proceed from a seed new to a soil than from the older kinds, it is a matter of as great importance to produce new sorts as it may be to keep the older ones up to their standard of excellence.

Experiments of this kind are of interest, as showing the nature and origin of different forms, and as indicating the amount of care and attention required to keep an induced form up to a certain standard.

Our examples as shown in the cuts have been planted with a view of carrying on the experiments, and if by attention and care in selection we are enabled to induce a fresh strain, our exertions will be well repaid in the experiences gained by the processes, if not in the practical results, which we hope will prove of considerable value.





On the Dorset Trigonæ.

By J. C. MANSEL-PLEYDELL, Esq., President.

THE genus *Trigonía* was placed by Brongniart among the *Arcadæ*; also by Lamarck, who subsequently separated it under a new family, *Trigonidæ*, together with *Myophoria* and *Axinus*. It was changed by Sowerby to *Lyrodon*, the name being previously occupied by a genus of plants.

The *Trigonæ* made their first appearance in the Liassic seas, and became very numerous during the deposition of the Oolitic beds, especially in the upper series, when they began to show symptoms of decline, so much so, that the Cretaceous formation does not contain a fourth part compared with those of the previous Jurassic period. At the same time they underwent a material modification of form, losing their trigonal shape, becoming more inflated and rotund, so as to give them the appearance of belonging to a separate family. The living *Trigonæ* (whose valves are channelled and bear a close affinity to the forms of the Scabrate section), have only two or three representatives, and which are restricted to the Australian seas.

The special character of the genus consists in the perfect symmetry of valves, which are precisely similar except in the parts occupied by the hinge; the posterior portion in some species is prolonged, in others it is square or truncate; the beaks are

anteriorly produced, and unlike the rest of the Acephalæ directed forward; the ligament which attaches the valves to each other is external with a posterior narrow lunule. The surface of the test which occupies its anteal portion is usually ornamented either with ribs, tubercles, or tuberculated ridges, on a different plane to its postea, which is well marked by an obliquely directed ridge towards the posterior and lower extremity, a smaller area called the escutcheon is bounded by another ridge, which includes the ligamental plates, and ligament; the hinge is complicated, the teeth of both valves interlock each other, which, together with its solidity, contributes to the perfect preservation of the shell in its fossil state; detached valves, or even the cast of an half-opened shell is very rare. The right valve is furnished with two prominent teeth, of which the posterior is directed backwards, forming the figure of V with the other, which fits into two deep sinuses of the left valve. The interior of the shell is smooth and nacrous, shewing no indication of the external ornamentation except in some few cases, where the tubercles are feebly represented.

Casts which shew the interior of the shell are frequently met with, but are of little use to the palæontologist, for they cannot with any certainty be discriminated from those of allied species. One of the characteristics of these casts is a deep longitudinal furrow, the wide gap intervening between the two distant beaks correspond with the thick massive hinges; the impression of the posterior muscular scar is generally present.

Agassiz divided the fossil Trigonæ into seven sections, to which Dr. Lycett in his magnificent monograph on the British Fossil Trigonæ published in the Palæontographical Society has added an eighth; the distinctions are founded upon the shape of the shell, the ornamentation of the surface, area, and its escutcheon. Only four of the sections are represented in the Dorsetshire formations, *Clavellatæ*, *Glabræ*, *Scabræ*, and *Costatæ*.

The surface of the valves of the section *Clavellatæ* are ornamented with tuberculated costæ in concentric or oblique rows, the area is bounded by two tuberculated ridges, the escutcheon is

depressed and plain, and is also enclosed by an inner tuberculated ridge. There are several species, many of which prevail in the Middle and Upper Oolites of Great Britain. Eleven species of this section have been met with in Dorsetshire.

T. Voltzii, Agassiz., Kim. Clay.

T. Pellati, Mun. Chalm., Kim. Clay.

T. incurva, Benett, Kim. Clay.

T. cymba, Contjean, Portland Sand.

T. muricata, Lyc, Portland Oolite.

T. clavellata, Sow., Lower Calc. Grit.

T. perlata, Agassiz., Lower Calc. Grit.

T. irregularis, Seebach., Oxford Clay.

T. striata, Müller, Inf. Oolite.

T. formosa, Lyc., Inf. Oolite.

T. signata, Agass, Inf. Oolite.

Dr. Lycett excludes *T. Bronnii*, which had hitherto been accepted as British, on the authority of M. Hebert, who considered a small fossil from the lower Calcareous Grit-beds of Weymouth, to be *T. Bronnii*, but which, after careful examination, Dr. Lycett decides it to be merely a form of *T. clavellata*.

The section *Undulata* differs from the *Clavellata* in the costæ; which are undulated and not unfrequently broken into two distinct series of rows, of which the anteal are the smaller and more numerous. Some, as *T. conjungens*, have ridges bearing tubercles; the area has a mesial furrow, and the escutcheon is always plain.

It has two Dorsetshire representatives, *T. conjungens* and *T. literata*, both from the Inf. Oolite in the neighbourhood of Bradford Abbas.

The section *Glabræ* differs from the above in the slight difference of the area from the other portions of the valve, which although fairly defined, is for the most part destitute of carinæ or only indications of them in the region of the umbones. The anteal portion of the valve has the costæ more or less prominent.

Dorsetshire possesses five of the seven British species of this section.

T. excentrica, Park., Chl. Sands.

T. gibbosa, Sow., Portland Oolite.

T. Manseli, Lyc., Portland Oolite.

T. Damoniana, De Lor., Portland Oolite.

T. tenuitexta, Lyc., Portland Oolite.

The section *Scabræ*, as has already been observed, is distinguished from the rest by its departure from the true trigonal form, and is more orbicular than any of the other sections. It does not extend beyond the known limits of the Cretaceous beds, and has three representatives in Dorsetshire, namely :

T. Vicaryana, Lyc., Chl. Sands.

T. Meyeri, Lyc., Chl. Sands.

T. aliformis, Lyc., Chl. Sands.

The section *Costatæ* differs from the previous, in the dissimilarity of the valves, both in shape and ornamentation. The sides are furnished with elevated plain costæ, and the area separated by two dentated carinæ, each valve being divided longitudinally into two nearly equal portions. There are seven Dorsetshire species of this section.

T. monilifera, Agassiz., Kim. Clay.

T. Meriani, Agassiz., Calc. Grit.

T. elongata, Sow., Ox. Clay.

T. sculpta, Lyc., Inf. Oolite.

T. costata, Sow., Inf. Oolite.

T. tenuicosta, Lycett, Inf. Oolite.

T. bella, Lycett., Inf. Oolite.

Towards the close of the Cretaceous period the whole family of *Trigonia* showed symptoms of decline, which reached its termination in Europe during the Cretaceous age ; not a single species of *Trigonia* has been met with in any of the Tertiary beds, but it is possible some may have been hardy enough to withstand the long strain of depletion, for there are five living species, all of which are found in the bay of Sidney and the seas of Australia. *T. Lamarckii*, Gray ; *T. margaritacea*, Lam. ; *T. nobilis*, Adams ; *T. Strangei*, Adams ; *T. uniophora*, Gray. The last Challenger expedition also brought to light a new species from these seas.

The partial or entire disappearance of whole families which have only had a limited area may be accounted for, by a change of climate—a change in the masses of land by depression or elevation—the formation of desert belts, such as the Sahara—an alteration in the direction of oceanic currents—or by submarine volcanic disturbance, but is not so easily explained when we have to deal with families which at one time occupied extensive areas and ranges, like the *Trilobita*, *Brachiopoda*, certain *Cephalopoda*, such as the Ammonities, and other mollusca—*Trigoniæ*, *Pholadomyæ*—which had gained at one period so firm a hold as to threaten predominance. At this zenith of their career the sentence of decline or extermination was irrevocably passed, and with but few exceptions the records of their existence are only revealed when their rocky sepulchre are exposed to view.

It is remarkable that the living members of this family are only met with in the seas of Australia, a continent where the marsupial representatives of the Jurassic age also find a home, a period synchronous with the fullest development of the family *Trigonia*.

CLAVELLATÆ.

TRIGONIA FORMOSA, *Lycett*, plate i., fig. 1.

MONO. BRIT. FOSS., TRIGONIÆ, *Lycett*, Pal. Soc., p. 35, plate v., figs. 4-6.

Geological Journal, Vol. 35, p. 743, 1879.

Shell ovately trigonal depressed; umbones elevated, pointed, and recurved, anterior side moderately produced, both it and the lower border elliptically curved; superior border lengthened and concave; area rather narrow, flattened, with closely arranged, acute, transverse striations, a faintly marked oblique, mesial furrow, and bounded by two small densely and minutely dentated carinæ; the escutcheon is concave, smooth, and lengthened; the costated portion of the shell has very numerous narrow, oblique, knotted ridges, which are small at the carina, but

increase in size anteally, where they also curve more or less horizontally, towards the anterior border.

Obs.—*T. formosa* is a very common form in the Cephalopoda-bed at Bradford Abbas, and in the Sands below, of the Inferior Oolite.

TRIGONIA STRIATA, *Miller*, plate i., fig. 7.

MONO. BRIT. FOSS. TRIGONIZÆ, *Lycett*, Pal. Soc., p. 36, plate 5. figs. 6—8.

Shell subquadrate, short, moderately convex, umbones small, erect, and only slightly recurved; anterior side short, somewhat truncated, lower border curved elliptically, superior border short, horizontal, forming a considerable angle with the wide truncated extremity of the area, which is traversed mesially by an obscure furrow, the transverse striations are very regular and minute even to the apex; the escutcheon is narrow, lengthened and much depressed, its superior border is considerably raised; the other portion of the surface has about twenty-two narrow, obliquely curved, and elevated costæ. The most remarkable features of this species are the short sub-quadrate figure, and the large size of the area.

Obs.—This *Trigonia* occurs in the zone of *Ammonites Humphriesianus*, at Burton Bradstock, and is not found in the northern extension of the series.

TRIGONIA SIGNATA, *Ag.*

MONO. BRIT. FOSS., TRIGONIZÆ, *Lyc.*, Pal. Soc., p. 29, pl. ii., figs. 1-3.

Shell ovately elongated, sub-trigonal depressed; umbones antero-mesial, small, and not prominent nor recurved, but rarely they are erect and recurved; the anterior side is moderately produced and rounded; both this and the lengthened lower border are curved elliptically; superior border straight and lengthened, and rarely somewhat concave; area wide and flattened, its posterior extremity is compressed and somewhat truncated, bounded by two delicate minutely tuberculated carinæ, and

transversed longitudinally by a mesial furrow; the escutcheon is depressed, lengthened, and narrow, its superior border is somewhat raised; the costated portion of the shell has a numerous series of about twenty oblique rows of tuberculated costæ, of which the first four or five are slightly curved and sub-tuberculated; the tubercles are small, separate, rounded, regular, and nearly of equal size.

Obs.—*T. signata* appears to be limited to the Inferior Oolite; Dr. Lycett says, "It appears to be present in Dorsetshire, judging from the matrix of two specimens which have come under my notice." He does not, however, give the exact locality.

TRIGONIA IRREGULARIS, *Seebach*, plate ii., fig. 3.

MONO. BRIT. FOSS., TRIGONÆ, *Lyc.*, Pal. Soc., p. 39, plate v., figs. 1, a, b, 2, plate vii., fig. 6.

Damon Geo. of Weymouth, Sup., plate ii., fig. 3, 1880.

Shell ovately trigonal, or oblong; umbones antero-mesial, prominent, and recurved, anterior side short, moderately convex, slightly truncated, its lower portion curved, with the lengthened lower border; the escutcheon is very large and depressed; its length exceeding half of that of the entire shell, its superior border is only slightly raised; the area is narrow, having three tuberculated carinæ, the inner and median carinæ have each a row of small transverse, nodose varices, rather distantly arranged; the other portion of the valve has about fourteen rows of slightly elevated costæ, with distinct, conical, pointed, and unequal tubercles, the first-formed six or seven rows are regular and concentric, those which succeed are more or less irregular, both in their direction and the size and arrangement of the tubercles, the anteal portion of the rows becoming broken and irregular.

The figure in Mr. Damon's "Supplement" is an extreme example of that general irregularity of the tubercles which Seebach has adopted as a name for the species.

Obs.—It is moderately abundant in the Oxford clay, in the neighbourhood of Weymouth.

TRIGONIA INCURVA, *Benett*, plate iii., fig. 1.

MONO. BRIT. FOSS., TRIGONIÆ, *Lyc.*, Pal. Soc., p. 42, plate ix., figs. 2-6.

Damon's Geo. of Weymouth, Sup., pl. vii., fig. 1
(internal mould), 1880.

Shell elongated, curved at the two extremities; anterior side convex; posterior side lengthened, curved and depressed; umbones large, elevated, somewhat recurved, and placed near to the anterior border, which is curved elliptically with the lower border; escutcheon concave, lengthened, its superior border somewhat raised; area narrow, distinctly, bipartite with three delicate tuberculated carinæ, and irregular transverse plications. The ornamentation on the sides of the valve varies much in accordance with the development in the growth of the shell.

Obs.—*Trigonia incurva* passes from the Kimmeridge clays to the Portland Limestones. It occurs at Kimmeridge Bay, and at Portland; the moulds are very common, but it rarely happens that any considerable portion of the test is adherent. Dr. Lycett's fig. 2 is from a specimen in my collection, from Kimmeridge Bay, and is now in the National Museum of Practical Geology, Jermyn Street.

TRIGONIA WOODWARDI, *Lyc.*, plate iii., fig. 2.

MONO. BRIT. FOSS., TRIGONIÆ, *Lyc.*, Pal. Soc., p. 40, plate xvii., fig. 1.

Shell large, ovately trigonal, depressed; umbones elevated, pointed, recurved, placed at about the anterior third of the valves; anterior side produced, its border curved obliquely with the lower border, which is lengthened, and nearly straight posteally; the superior border is nearly straight, sloping downwards obliquely, and forms only a slight angle with the postéal border of the area, which is pointed at the lower extremity; the escutcheon is narrow, lengthened and concave, the border raised; area narrow, its superior or umbonal portion forms a considerable angle with the costated surface of the shell, of which the rows of costæ are small, widely separated, and nearly

straight or oblique; the tubercles of the rows are numerous crowded, closely placed and unequal. Length, four-and-a-quarter inches; height, three-and-a-quarter inches; diameter through the united valve, one inch and three-quarters.

Obs.—This rare shell occurs in the Kimmeridge clay, at Kimmeridge Bay, where I have found only one specimen, which I deposited in the Jermyn Street Museum of Practical Geology.

TRIGONIA CLAVELLATA, Sow., plate x., fig. 7.

MONO. BRIT. FOSS., TRIGONIAE, *Lyc.*, Pal. Soc., p. 18, plate i., figs. 1-2,
Damon's Geol. of Weymouth, Sup., plate iv., fig. 2,
1880.

Shell ovately trigonal, moderated elongated, convex; umbones large, obtuse and incurved, but rarely recurved; anterior side rounded, but not much produced, its lower extremity curved with the lower border; superior border straight, lengthened, sloping obliquely downward; escutcheon flattened, its length is nearly equal to half the length of the marginal carina; area narrow, flattened, or slightly convex, transversely and irregularly plicated, having three carinae of which the mesial carina consists of a row of delicate small tubercles; the two bounding carinae have the tubercles much larger, but depressed, and closely arranged, those on the lower carina form, lengthened transverse varices; a well-marked furrow borders upon the median carina; the superior half of the area is more depressed than the other portion. The sides of the valves have the rows of tuberculated costae, at first oblique, but the later formed few, became more horizontal. The tubercles in the rows are large, closely arranged, and unequal both in size and figure. Dr. Lycett considers the forms from the Lower Calcareous Grit to be the types of this species, they have sixteen or seventeen rows of costae in adult specimens.

Obs.—*T. clavellata* occurs very abundantly in the Calcareous Grit at Sandsfoot Castle, and at Ringstead Bay near Weymouth.

TRIGONIA VOLTZII, *Agass.*, plate iv., fig. 1.

MONO. BRIT. FOSS., *TRIGONÆ*, *Lyc.*, Pal. Soc., p. 20, plate x., figs. 1-2.

Damon's Geology of Weymouth, Sup., pl. xv., fig. 2,
1880.

This Kimmeridge Clay fossil has often been confounded with *T. clavellata*. It is larger, however, and considerably more lengthened; the umbones are somewhat more elevated, and attenuated; the anterior side is short, while the posterior is much produced; the test is also unusually thick. The valves have very little convexity, consequently the surface of the area is more nearly on the same plane with the other portion of the valve; the rows of tuberculated costæ upon the other portion of the valve are invariably less numerous, and more widely separated than in *T. clavellata*.

Obs.—This shell is frequently met with in the Kimmeridge Clays, both at Weymouth and Kimmeridge.

TRIGONIA CYMBA, *Contejean*, plate iv., fig. 4.

MONO. BRIT. FOSS., *TRIGONÆ*, *Lyc.*, Pal. Soc., p. 192, plate xxxviii., fig. 1.

This species is remarkable for the considerable elongation of the valves postteally, for the extremely slight curvature of the rows of costæ, and which are nearly horizontal; for their inconspicuous tubercles, and lastly for the small development of the ornamentation of the valves; the umbones are large, elevated, and nearly erect; the anteal portion of the shell has considerable convexity; the postteal and more lengthened portion is depressed; area narrow, bounded upon each side by a row of minute tubercles over the anteal or umbonal half of its length; the postteal half of the area has only transverse rugæ, which are not strongly defined, it is also much depressed; the other portion of the shell has rows of clavellated costæ about fifteen or sixteen in number, small, nearly horizontal or coinciding in their direction with the lines of growth.

Obs.—This very rare British fossil occurs in the Portland sands at Gad-cliff, near Kimmeridge Bay; there is no other record of it in any other British locality. It is not, however, uncommon on the other side of the Channel. Dr. Lycett's figure in the Palæontographical is taken from the unique Dorsetshire specimen, which is now in the National Museum of Practical Geology. Dr. Lycett says of it, "The minuteness and delicacy with which the character of the surface has been preserved leave little cause to regret the absence of the test."

TRIGONIA PELLATI, *Mun. Chal.*, plate ii., fig. 4.

MONO. BRIT. FOSS., TRIGONIAE, *Lyc.*, Pal. Soc., p. 41, plate vii., 1, 2 a.b., plate ii., fig. 1.

Shell oblong, inordinately elongated, the superior border wide, the inferior depressed, and wedge-shaped; umbones near to the anteal extremity of the valves, obtuse, much incurved, and depressed; anterior side very short, truncated, with considerable convexity, its border curved elliptically with the lower border, which is very long and straight; the superior border is also very long, its border slightly concave, its posteaal extremity forming an obtuse angle with the posteaal border of the area and terminated with a somewhat pointed and much produced extremity; the area is long and slightly convex with a well-marked mesial furrow, bordering a line of minute tubercles, and bounded by two delicately traced and minutely tuberculated carinæ; escutcheon flattened, of moderate breadth, but unusually lengthened. The sides of the valves are very narrow, and have a few rows of very distinctly arranged oblique tuberculated costæ. Three or four of the tubercles nearest the carinæ are larger, rounded, and pointed. This is the most elongated of the *Clavellatæ*.

Obs.—*T. Pellati* occurs frequently in the Lower Beds of the Kimmeridge Clay series at Kimmeridge Bay. The specimen figured by Dr. Lycett came from thence; and is deposited in the National Museum of Practical Geology, Jermyn-street.

TRIGONIA MURICATA, *Goldf.*, plate iv., fig. 1.

MONO. BRIT. FOSS., TRIGONIAE, *Lyc.*, Pal. Soc., p. 50, plate ix., fig. 1.

The shell of this species has a lengthened oblong form, with the anterior side very short, and the posterior attenuated; the anterior and lower borders are curved elliptically; the umbones have but little elevation, but are distinctly recurved; area large and flattened, or slightly convex posteally, having tuberculated carinae, the marginals bearing regularly rounded and rather distinctly-arranged tubercles; the lateral costae have only a slight elevation; they are numerous (about twenty-four), obliquely curved, and nearly of equal size, the tubercles small, numerous, regularly, and slightly compressed laterally; the larger tubercles occupy the middle and postal portion of the rows.

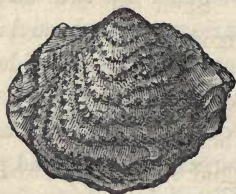
Obs.—Several examples of this species have been met with in the Portland beds of Dorsetshire; but deprived of their tests, and do not exhibit the character of the area.

UNDULATE.

TRIGONIA CONJUNGENS, *Phil.*

MONO. BRIT. FOSS., TRIGONIAE, *Lyc.*, Pal. Soc., p. 62, pl. x., figs. 5, 7, 8, pl. xiii., fig. 6.

Shell ovately oblong, moderately convex mesially, somewhat depressed near to the anterior and posterior borders; umbones elevated, obtuse, erect or slightly re-curved, placed within (or in some specimens upon) the line of the anterior third of the valves; anterior border produced, curved elliptically with the lower border; hinge-border straight, lengthened, sloping obliquely and terminating posteally in the wide-*Trigonia conjungens*, *Phil.* rounded postal border of the area; escutcheon large, lengthened, depressed, excepting its superior border, which is raised; area very wide, occupying about one-third of the surface of the valve; it is somewhat raised, expanded and flattened posteally; it has a



well-marked mesial oblique furrow, and is traversed transversely by numerous large plications, which increase in size posteaally and become irregular, prominent, and wrinkled. The costated portion of the valve has numerous rows of tuberculated costæ, the first-formed six or seven rows are very closely arranged, slightly curved at their two extremities; those which succeed form two series; the anteaal being somewhat irregular in their arrangement, and directed somewhat obliquely downwards to the middle of the valve, their postal extremities are united about the middle of the valve to another less numerous, and somewhat larger series of costæ; they approach the carina at a considerable angle, and the last three or four rows pass perpendicularly down to the lower border.

Until very recently this species had remained one of the more obscure and doubtful forms of *Trigonia*, and had it not been for its fortunate discovery by Professor Buckman, at Bradford Abbas, while this memoir was passing through the printer's hands, "The Proceedings" would not have had the privilege of being the first to record it as having been met with in the county.

Obs.—*T. conjungens* occurs in the Cephalopoda-bed of the Inferior Oolite at Bradford Abbas.

TRIGONIA LITERATA, *Young and Bird.*

MONO. BRIT. FOSS. TRIGONIAE, *Lyc.*, Pal. Soc., p. 64, plate xiv., figs. 1-4

Shell subovate or ovately oblong, convex; umbones large, moderately elevated, obtuse, nearly erect, placed within the anterior third of the valves; anterior side moderately produced, its border curved elliptically with the lower border; superior border lengthened, nearly straight, sloping obliquely downwards, and forming posteaally nearly a right angle, with the posterior border of the area; escutcheon wide and somewhat concave its superior border moderately raised; area narrow, slightly convex with a well-defined mesial furrow. The other portion of the surface has two distinct series of tuberculated costæ, this distinctness commences at the apices. The anteaal series has the

rows very numerous, small and extremely irregular; the rows are sometimes partially united to the larger postéal series, or altogether separated from them.

Obs.—A single specimen of this rare shell was found by Professor Buckman in the same quarry as *T. conjungens*. It is probable that the harder beds of Limestone in the Oolite Sands of the neighbourhood may be found to yield this species.

COSTATÆ.

TRIGONIA COSTATA, *Sow.*, plate i., fig. 3.

MONO. BRIT. FOSS., TRIGONIÆ, *Lyc.*, Pal. Soc. p. 147, plate xxix., figs 5-10.

Shell sub-trigonal, very convex near the divisional angle of the valve, and near the apex is rather depressed posteally; umbo prominent, pointed, incurved, and somewhat recurved; anterior side a little produced, its border truncated; the escutcheon is flattened and depressed, its breadth with the valves united exceeds its length; the area is large and flattened, each portion having from three to five costellæ. The rest of the shell has about twenty-four large plain costæ, all of which originate at the anterior border.

Obs.—*Trigonia costata* has a considerable vertical extension, ranging from the Inferior Oolite to the Cornbrash. It occurs frequently at Bradford Abbas and Burton Bradstock, and I have met with it, in the Cornbrash of Closworth.

TRIGONIA SCULPTA, *Lyc.*, plate i., fig. 4.

MONO. BRIT. FOSS., TRIGONIÆ, *Lyc.*, Pal. Soc., p. 157, plate xxxiv., figs. 1, 2, 2a.

Geological Journal, vol. 35, p. 743-1879.

Shell subovate or ovately oblong, moderately convex, umbones prominent, pointed, subanterior, and slightly recurved, anterior side short, its border curved elliptically with the lower border superior border straight and lengthened; the escutcheon is also

lengthened, flattened and depressed; the area has some convexity, more especially in the right valve; it is bounded by two deeply dentated carinæ, the inter-carinal costellæ are few, large, and somewhat irregular; the costæ in fully developed specimens are about twenty-seven, curved obliquely or subconcentric.

Obs.—*T. sculpta* occurs in the Cephalopoda beds and Sands below of the Inferior Oolite at Bradford Abbas; where it is a rare fossil. It has been met with in the Cornbrash of this county.

TRIGONIA BELLA, *Lyc.*, plate i., fig. 5.

MONO. BRIT. FOSS. TRIGONIÆ, *Lyc.*, Pal. Soc., p. 162, plate xxxii., figs. 6-8a.

Shell convex mesially, much produced and pointed at its umbonal extremity, which is only slightly, or sometimes not at all recurved; escutcheon narrow, depressed and excavated, so that no portion of it is seen when a valve is laid horizontally upon its borders, and viewed from above; its length exceeds twice its breadth in the united valves; the surface of the escutcheon has a numerous series of very delicate, diverging, slightly indented costellæ; the area is divided into two nearly equal spaces by an unusually large, elevated; and nodose median carina; its costellæ, eight or nine in number, are very irregularly knotted or indented; the right valve has only three or four larger costellæ, and its surface is more elevated, the other portion of the shell has the costæ twenty-eight or twenty-nine in number, moderately elevated, very oblique, and with little curvature.

Obs.—This well-characterized species of the *Costatæ* section has been hitherto only found, in the Cephalopoda bed of Bradford Abbas, where it is rarely met with.

TRIGONIA TENUICOSTA, *Lyc.*, plate i., fig. 2.

MONO. BRIT. FOSS. TRIGONIÆ, *Lyc.*, Pal. Soc., p. 160, plate 33, figs. 7-9a.

Shell ovately trigonal, very convex; umbones elevated, acute, arched inwards, and recurved; anterior side very short, its

border truncated almost perpendicularly, and slightly excavated beneath the umbones; inferior border short, curved elliptically, hinge border sloping obliquely, and forming an obtuse angle with the syphonal border, which is nearly perpendicular, and equal in length to the hinge-border; area large, concave, its surface forming nearly a right angle with the costated portion of the valve. It is rendered unequally bipartite by a minute but distinct median carina in each valve; the escutcheon is wide, heart-shaped, with the valves in contact, and slightly depressed; its superior border convex. The other portion of the surface has the costæ, about twenty-eight in number, narrow and elevated, nearly horizontal, curving upwards anteally. The hinge-processes are large and project considerably.

Obs.—This species has been met with in the Cephalopoda Bed at Walditch, near Bridport, and at Bradford Abbas, but in neither locality is it common.

TRIGONIA MONILIFERA, *Agass.*, plate ii., fig. 1.

MONO. BRIT. FOSS. TRIGONÆ, *Lyc.*, Pal. Soc., p. 165, plate xxxi., figs.

1—2a, 10.

T. MARGINATA, *Dam.*, Damon's Geol. of Weymouth, Sup. pl. iv., fig. 1, 1880.

Shell ovately trigonal, very convex, both mesially and anteally, umbones prominent, much incurved, and more or less recurved; anterior side moderately produced and rounded, its border curved elliptically with the lower border, its superior or umbonal portion slightly excavated, hinge-border concave; escutcheon very wide and concave, the surface for the most part delicately reticulated, having two series of numerous small fine ridges; the area is of moderate size, bipartite, somewhat concave and nearly alike in both the valves, it has a prominent median carina, and the boundary carinæ are large. The rest of the shell has about twenty-five costæ (in adult forms) which are large and somewhat flattened, the lines of growth are conspicuous and prominent.

Obs.—This species occurs in the lower beds of the Kimmeridge

Clays and in the Calcareous Grits in the neighbourhood of Weymouth, as well as in the red pisolitic iron-rock at Abbotsbury, where it is invariably deprived of its test and is ill preserved.

TRIGONIA ELONGATA, *Sow.*, plate ii., fig. 2.

MONO. BRIT. FOSS., TRIGONIE, *Lyc.*, Pal. Soc., p. 154, plate xxx., figs. 3, a, b, 6.

Damon's Geol. of Weymouth, Sup., pl. ii., figs. 1, 2, 1880.

Shell ovately trigonal, short, very convex at the position of the marginal carina; umbones elevated, pointed, much arched inwards, and somewhat recurved; anterior side short, its border truncated, lengthened, depressed at the junction of the valves, its lower portion curved elliptically with the lower border, which is short and nearly straight; hinge border very convex and short, forming a considerable angle with the siphonal border; escutcheon raised, convex, and cordate, the breadth of the united valves equal to three-fourths of its length; area very large, and with the escutcheon is equal in size to the other portion of the valve, which has the costæ large, elevated, and only slightly oblique in their general direction; in adult forms their number varies from eighteen to twenty-seven.

Obs.—The typical form of this species occurs abundantly in the Oxford Clay at the Breakwater, Weymouth. I found the var. *lata*—the largest of the *elongate group*—in the Cornbrash at Closworth, a locality just outside the borders of the county.

TRIGONIA MERIANI, *Agass.*, plate iv., fig. 2.

MONO. BRIT. FOSS. TRIGONIE, *Lyc.*, Pal. Soc., p. 167, plate xxxiii, figs. 1—3.

Shell acutely trigonal, very convex; umbones produced, pointed, arched inwards and recurved; anterior side produced, its border rounded elliptically with the lower border, which is slightly excavated posteaally; escutcheon comparatively small, depressed, flattened, with its superior border somewhat raised;

its surface has small closely arranged, delicate, oblique plications; area slightly excavated and flattened, rendered distinctly bipartite by the superior or inner half being more depressed than the other portion; it is bounded by two well defined small carinæ; the marginal carina is elevated, peculiarly narrow in the left valve and somewhat larger in the other. The sides of the valves have a very numerous series of costæ (forty or more in advanced growth), they are small and somewhat unequal in size, and irregular in their direction. The smallness and irregularity of the costæ in so large a species is a feature altogether unique in the Jurassic *Costatæ*.

Obs.—This large *Trigonia* has been obtained from the Calcareous Grit formation at Weymouth.

GLABRÆ.

TRIGONIA GIBBOSA, Sow., plate v., fig. 1.

MONO. BRIT. FOSS., *TRIGONIÆ*, *Lyc.*, Pal. Soc., p. 84, plate xviii., figs. 1-6
plate xix., figs. 1 a.b., 2.

Damon's Geology of Weymouth, Sup., pl. xvi., fig. 5, 1880.

Shell somewhat inflated, subovate, or ovately oblong; umbones large, obtuse, elevated, antero-mesial and erect; anterior and inferior border elliptically curved, hinge-border concave, its postea extremity curved gently with the postea border of the area, which is narrow, slightly curved, having a mesial oblique furrow; there are no distinct bounding carinæ, but near the umbo the area forms a distinct angle with the more depressed anti-carinal space; the escutcheon is of moderate breadth, smooth and depressed; the costated portion occupies more than half the valve; the costæ in their prominence, number, and general aspects possess so much variability that, without the examination of numerous connecting specimens other species may possibly be united to it.

Obs.—*T. gibbosa* is limited to the Portland Oolite and Sands. It is not uncommon at Portland.

TRIGONIA TENUITEXTA, *Lyc.*, plate v., fig. 4.

MONO. BRIT. FOSS., TRIGONILÆ, *Lyc.*, Pal. Soc., p. 90, plate xx., figs. 1, 1a.
Damon's Geology of Weymouth, Sup., plate xvi.,
fig. 3, 1880.

Shell with the general outline of *T. Damoniana* but less convex; its most striking peculiarity is the ante-carinal space, which is nearly absent, there being only a narrow slight depression, indicating its position; the knotted costæ upon the side of the valve are remarkable for their minuteness, close arrangement, and irregularity of undulations, so that they appear partially confused. Of the specimens figured in his Monograph, Dr Lycett says, "the escutcheon has a few irregular oblique plications; as this is a feature altogether foreign to the *Glabræ*, and occurs only in the *Quadratæ* and the *Costatæ*, its occurrence in the present instance may be regarded as an abnormal or individual peculiarity.

Obs.—*T. tenuitexta* is met with in the Limestones of the Isle of Portland.

TRIGONIA MANSELI, *Lyc.*, plate v. fig. 2.

MONO. BRIT. FOSS. TRIGONILÆ, *Lyc.*, Pal. Soc., p. 86, plate xix., figs. 3, 4,
4a, 6.

Damon's Geology of Weymouth, Sup., pl. xiv., fig.
4, 1880.

Shell subovate or ovately oblong, inflated mesially, compressed near its pallial border; umbones antero-mesial, prominent, large, and obtuse, much incurved and nearly erect; anterior and lower borders curved elliptically; hinge-border rather convex, curved gently with the postéal extremity of the area, and terminating in an extremity which is somewhat produced and pointed; escutcheon smooth and concave, having its upper border somewhat raised; area narrow, convex and raised, divided conspicuously by a deep mesial furrow, which has bordering upon it upon either side, a slightly defined row of small or evanescent tubercles. The other portion of the surface has a very numerous and well-marked series of obliquely directed tuber-

culated costæ, which are different upon the umbones, forming a densely-arranged linear series, which pass horizontally across the whole of the valve uninterrupted. The costæ (about twenty-four in number) are narrow, closely arranged, curved and somewhat attenuated near the pallial border. The arrangement of the rows is so close that it is sometimes difficult to discover the real direction of the lines of tubercles. The usual length is twenty-two lines, height eighteen lines, diameter through the united valves, fourteen lines and a half.

This fossil passes through all three sections of the Portland series, not unfrequently occurring in the Limestone, of Portland.

TRIGONIA DAMONIANA, *Le Lor.*, plate v., fig 3.

MONO. BRIT. FOSS. TRIGONÆ, *Lyc.*, Pal. Soc., p. 88, plate xviii., fig. 3., plate xix, figs. 1, a, b, plate xxi., figs. 2-5.

Damon's Geology of Weymouth, Supp., pl. 7, figs. 2, 3, 1880.

Shell subovate, lengthened obliquely, convex; umbones large, erect, very prominently and somewhat pointed, much incurved, and rendered bipartite by the narrow, deep sulcation produced by the apical termination of the ante-carinal space; border of the valves elliptically rounded excepting the hinge-border, which is straight, and lengthened, sloping obliquely; the anterior face of the valves has a large, rounded, depressed space or lunule; the escutcheon is depressed, cordiform and strongly marked by the lines of growth; the area is narrow, slightly elevated or curved, traversed transversely by irregular folds of growth; it has a well marked mesial furrow. The costated portion is divided into three or four zones; the direction of the row of costæ are not conformable with the sulcations; upon the anterior face of the valve they are uninterrupted and much attenuated. Compared with *Trigonia gibbosa* the general form differs considerably, being shorter transversely, the concentric sulcations smaller, and the umbones more elevated.

Obs.—*Trigonia Damoniana* is abundant in the Limestones of the Isle of Portland.

TRIGONIA EXCENTRICA, *Park.*, plate v., fig. 7.

MONO. BRIT. FOSS., TRIGONIE, *Lyc.*, Pal. Soc., p. 94, plate xx., fig. 5, plate xxi., figs. 6, 7, plate xxii., figs. 1, 5, 5a.

Shell inequilateral, subovate, rather depressed and thin in the very young condition, becoming thick, with a considerable convexity, in an advanced stage of growth; umbones pointed, erect, little produced, situated about two-fifths the length of the valve from the anterior border. Anterior side produced, its border curved elliptically with the lower border; hinge border nearly straight, or in some examples slightly concave, sloping obliquely downwards, lengthened, terminating in a postéal extremity, which is rounded, but attenuated; area narrow, slightly concave near to the umbo, where the valve forms an oblique angle, separating the area from the antéal portion. The other portion of the shell is covered by a series of a very numerous, slightly elevated, longitudinal or horizontal costæ, which are indented anteally by oblique intersecting lines of growth, they cross the valve near to the umbo, but disappear over the postéal third of the surface. The length compared with the height is as ten to seven. The hinge-teeth diverge widely, the adductor scars are deeply impressed, especially the antéal adductor.

T. excentrica occurs in the Chloritic Sands of Chardstock.

SCABRÆ.

TRIGONIA MEYERI, *Lyc.*, plate v., fig. 5.

MONO. BRIT. FOSS., TRIGONIE, *Lyc.*, Pal. Soc., p. 125, plate xxiii., fig. 6.

Shell ovately trigonal, very convex anteally, attenuated and compressed posteally; umbones large, elevated, pointed, and much recurved; anterior side produced, its border rounded and curved with the lower border, which becomes nearly straight posteally near to its attenuated extremity; the area is narrow, much curved, slightly elevated, separated from the other or pallial portion of the valve, by a distinct, narrow, divisional angle or ridge; the antéal portion of the area is traversed transversely by a numerous series of small, closely arranged,

wrinkled costellæ, which pass without interruption across the larger escutcheon. The upper surface of the valve is almost entirely occupied by a large concave escutcheon, which is conspicuously costellated transversely throughout its length; its breadth exceeds that of the area from which it is separated only by a faintly elevated ridge. The rest of the valve has a series of about twenty-six rows of small, closely placed, rounded, and slightly crenulated costæ, all of which originate at the carinal angle of the valve and pass downwards nearly perpendicularly.

Obs.—This fossil, together with the other Cretaceous Trigonæ, approaches nearest in form to those of our recent species. It is met with in the Chloritic Marls of Chardstock.

TRIGONIA VICARYANA, *Lyc.*, plate v., fig. 6.

MONO. BRIT. FOSS., TRIGONÆ, *Lyc.*, Pal. Soc., p. 141, plate xxv., figs. 8, 9.

Shell ovately elongated, convex, produced and pointed at the umbones, depressed posteaally; umbones sub-anterior, elevated, pointed, and recurved; anterior side short, its border curved elliptically, with the lower border; area wide, flattened, its surface, together with the escutcheon, equal to about two-fifths of the entire valve, and is covered by a very delicate and numerous series of obliquely curved scabrous costellæ, which nearly disappear in its postal portion. The escutcheon is of moderate breadth, separated from the area only by the border of the concave surface, and by two great prominences of the costellæ. The rows of costæ, which are very numerous and small, are curved obliquely downwards.

Obs.—*T. Vicaryana* is also met with in the Chloritic Marls of Chardstock.

TRIGONIA ALIFORMIS, *Park.*, plate v., fig. 8.

MONO. BRIT. FOSS. TRIGONÆ, *Lyc.*, Pal. Soc., p. 116, plate xxv., figs. 3-6.

Shell sublunate, inflated anteally, produced, attenuated and depressed posteaally, umbones much elevated, antero-mesial, pointed, much recurved and incurved, anterior side produced; its border rounded; lower border rounded but somewhat excavated

posteally, hinge-border lengthened concave, terminating posteally in a rostrated and attenuated extremity, ligamental aperture narrow, inter-umbonal; escutcheon lengthened, deeply concave, occupying the entire upper surface of the shell, its superior or inner border is plain and much raised; its outer border is elevated and rounded; the area is very narrow and convex; it is rendered bipartite throughout its entire length by a deep groove, and its superior or umbonal portion has a few small, ridge-like transverse costellæ; the remainder of its length has small, irregular, transverse, plications. The other portion of the surface has a numerous series of costæ which originate at the border of the area as narrow crenulated ridges, and diverge in every direction; about seven costæ nearest to the apex are concentric or curved obliquely, the next succeeding seven become inflated at their middle portions, and pass obliquely downwards to the pallial border. The change from the inflated anteal surface to the depressed and flattened posteaal portion is abrupt, and is a strong characteristic of the species.

T. aliformis occurs in the Chloritic Sands of Chardstock.

EXCLUDED SPECIES.

TRIGONIA BRONNII, Ag.

MONO. BRIT. FOSS., TRIGONIAE, *Lyc.*, Pal. Soc., p. 23, 209, plate iv., fig. 8.

Professor Hébert, in his memoir on certain clavellated Trigonias of the Oxford Clay and Coral Rag, refers to four British specimens of *T. Bronnii* found in the Calcareous Grit of Weymouth, which appeared to coincide with some French examples of *T. Bronnii*, a species which has a considerable variability even when obtained from a single locality, subsequent examination and comparisons of Weymouth and French specimens convinced him of the fallible character of this single distinctive feature and of the necessity of merging all such Weymouth specimens in *T. clavellata*.

The above descriptions are all taken from Dr. Lycett's Mono-

graph on the British Fossil Trigonieæ, in the Palæontographical Society's publications :—

Fig.	Species.	Formation.	Locality.
1	TRIGONIA BELLA	Inferior Oolite.....	Bradford Abbas.
2	FORMOSA	"	"
3	STRIATA	"	"
4	TENUICOSTA	"	Bradford Abbas and Walditch
5	COSTATA	"	Bradford A., Sherborne, & Bridp't
6	SIGNATA	"	"
7	SICULPTA	"	Bradford Abbas
8	CONJUNGENS	"	"
		"	"
9	LITERATA	"	"
	{ Bird and		
	{ Young		
10	ELONGATA	Oxford Clay	Weymouth.
11	IRREGULARIS	"	"
12	CLAVELLATA	"	Weymouth and Osmington
13	MONILIFERA	"	"
		"	"
14	PELLATI	"	Osmington and Kimmeridge Bay
	{ Manier		
15	MERIANI	"	Weymouth and Upwey
16	CYMBA	Calcareous Grit	Kimmeridge Bay
17	INCURVA	Kimmeridge Clay & Portland Sand	"
18	VOLTZII	Kimmeridge Clay	"
19	WOODWARDI	"	Weymouth and Kimmeridge Bay
20	DAMONIANA	"	Kimmeridge Bay
21	MANSELI	Portland Limestone	Portland
22	TENUITEXTA	"	"
23	GIBBOSA	"	"
24	MURICATA	"	"
25	VICARYANA	"	"
26	MEYERI	Chloritic Sands	Chardestock
27	ALIFORMIS	"	"
28	EXCENTRICA	"	"
		"	"

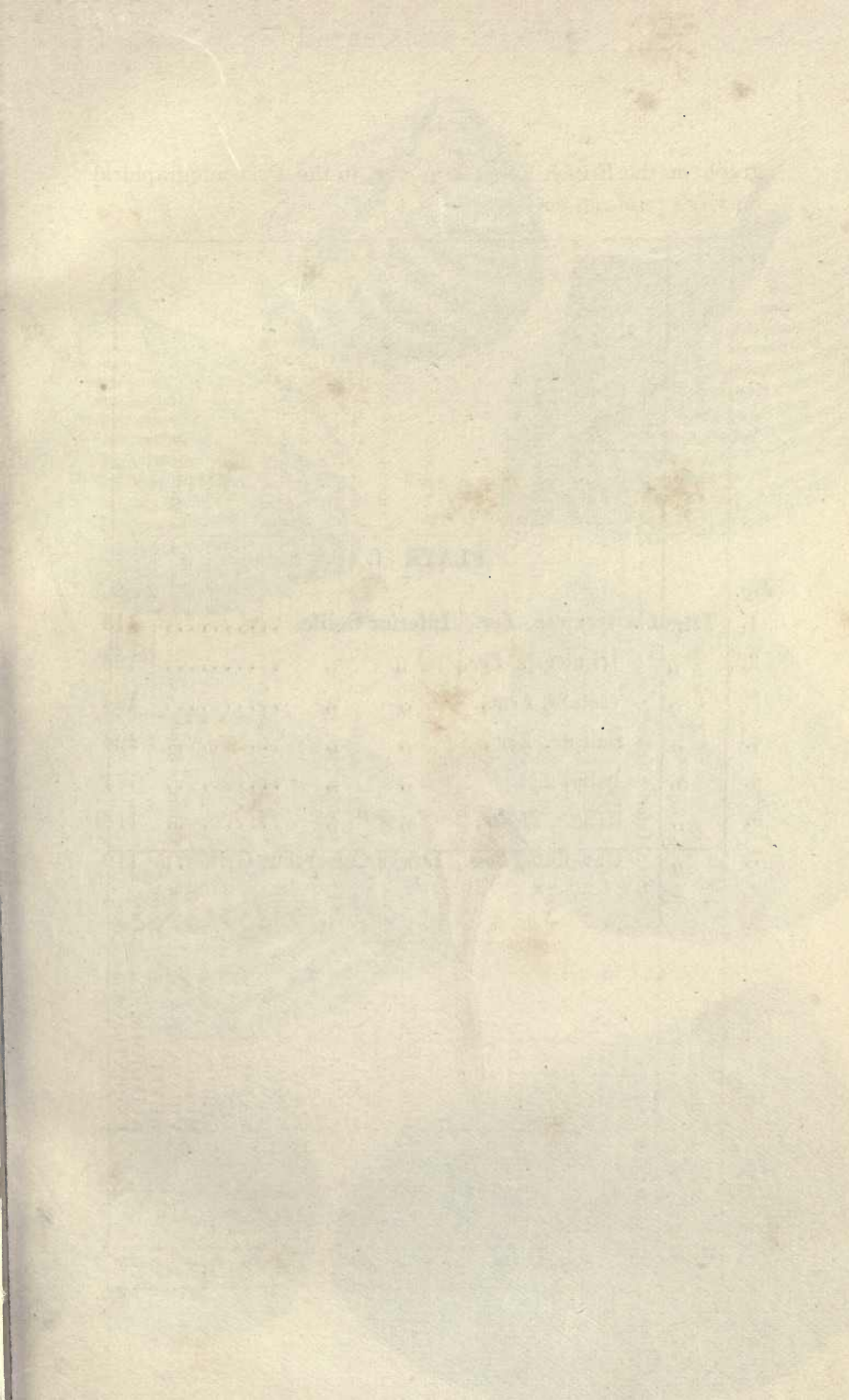


PLATE I.

<i>Fig.</i>		<i>Page.</i>
1.	<i>Trigonia formosa, Lyc., Inferior Oolite</i>	115
2.	„ <i>tenuicosta Lyc., „ „</i>	125
3.	„ <i>costata, Sow., „ „</i>	124
4.	„ <i>sculpta, Lyc., „ „</i>	124
5.	„ <i>bella, Lyc., „ „</i>	125
6.	„ <i>striata, Miller, „ „</i>	116
7.	„ <i>clavellata, Sow., Lower Calcareous Grit.</i> ..	119

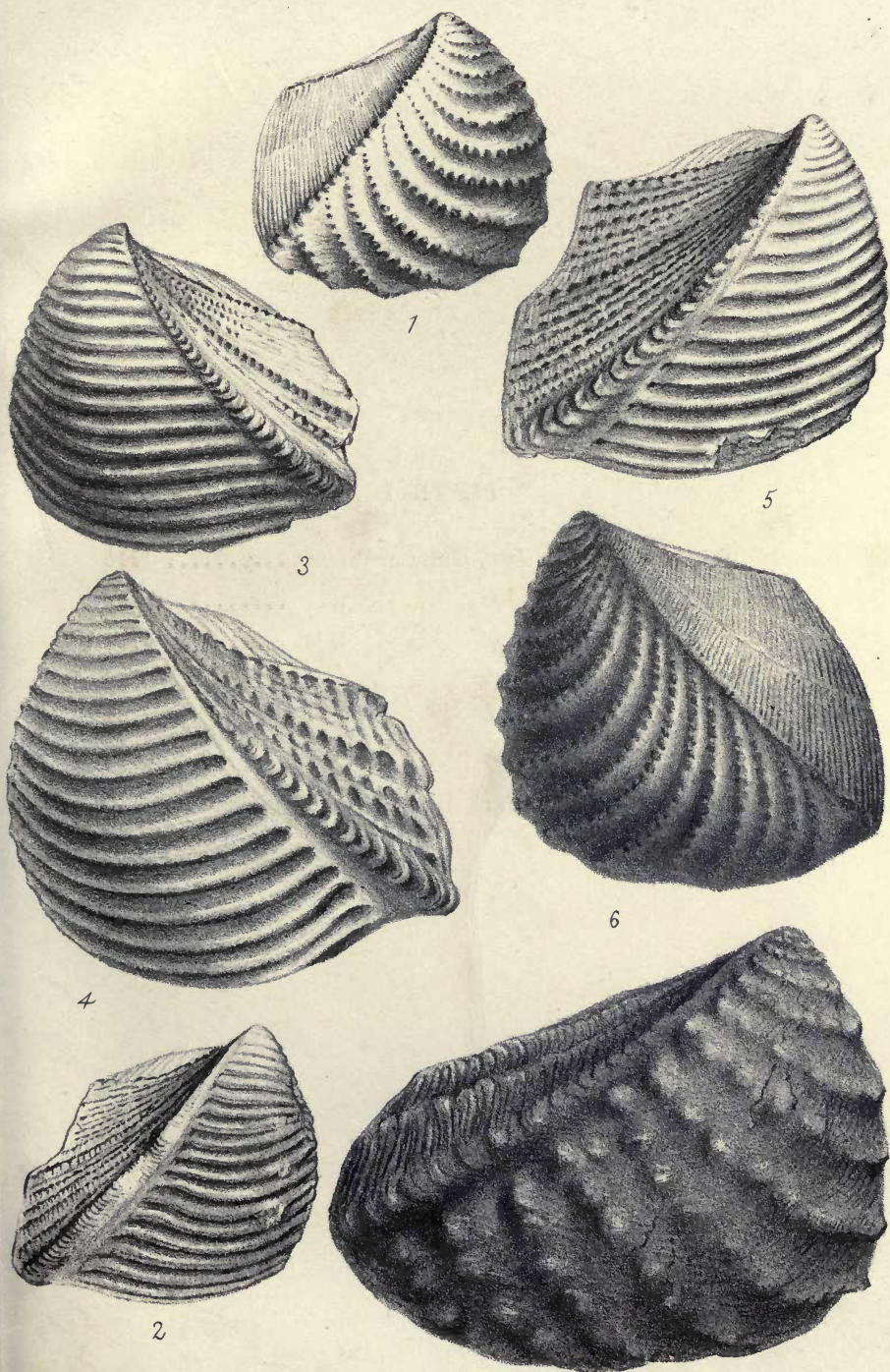
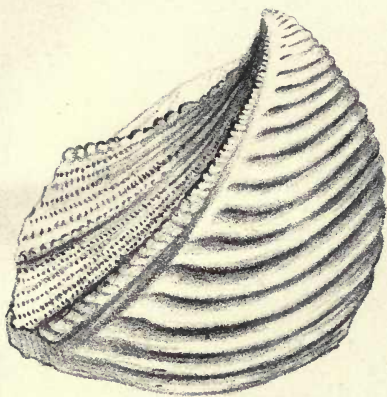


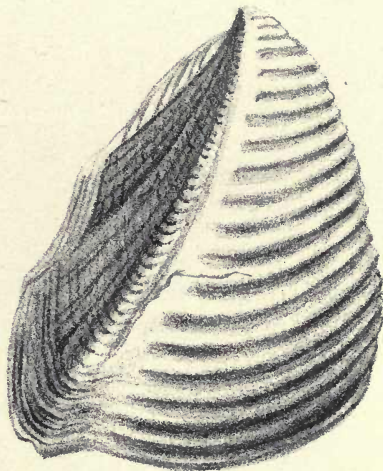


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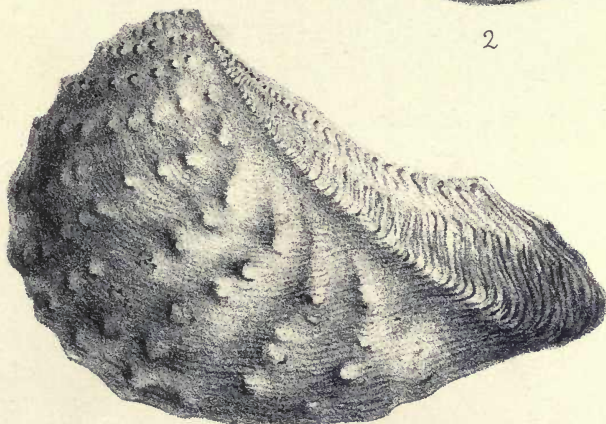
<i>Fig.</i>		<i>Page.</i>
1.	Trigonia monilifera, <i>Agass.</i> , Calcareous Grit	126
2.	,, elongata, <i>Sow.</i> , Oxford Clay	127
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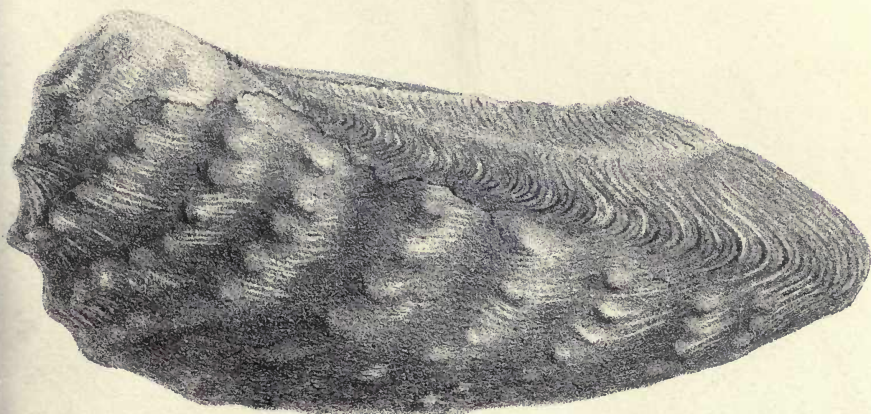
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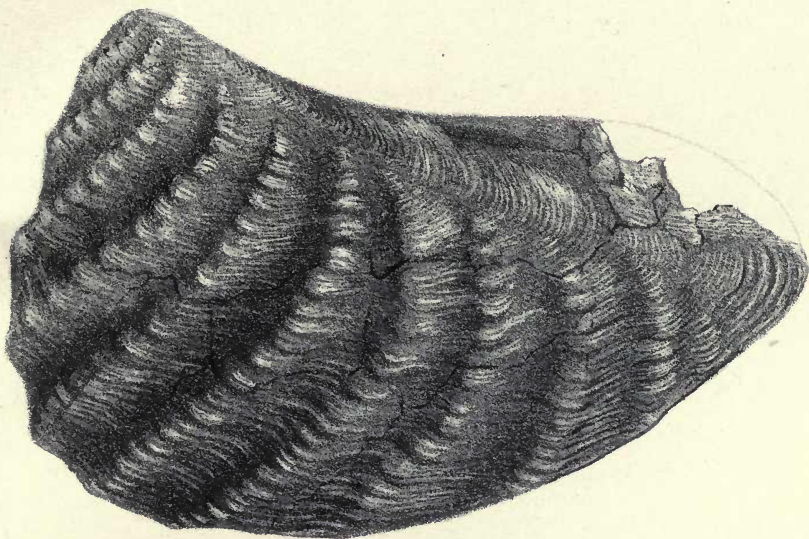


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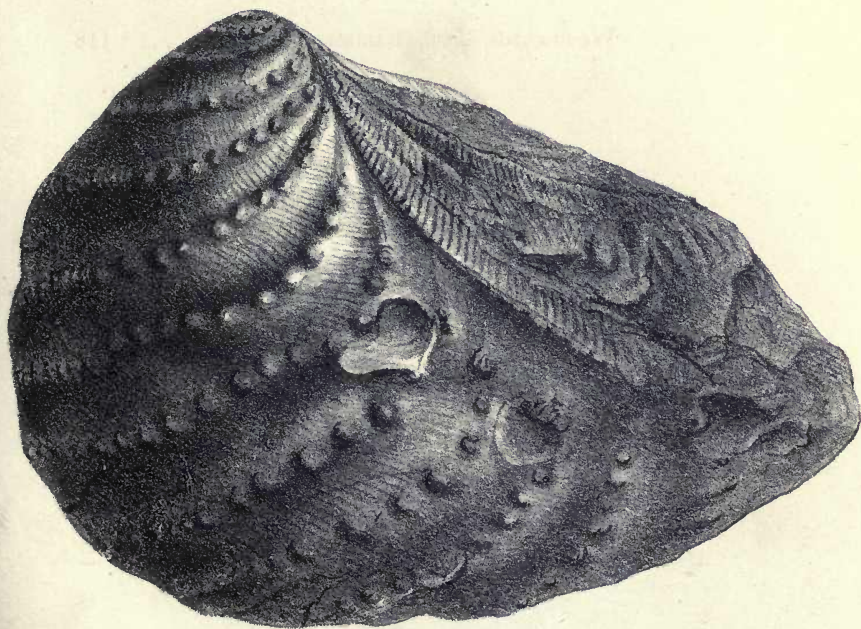


PLATE III.

<i>Fig.</i>		<i>Page.</i>
1.	<i>Trigonia incurva</i> <i>Benett</i> , Kimmeridge Clay	118
2.	„ <i>Woodwardi</i> , <i>Lyc.</i> , Kimmeridge Clay	118



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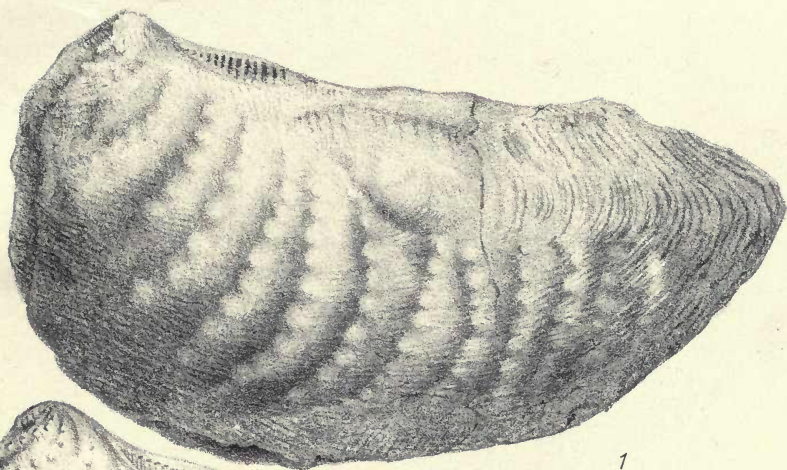


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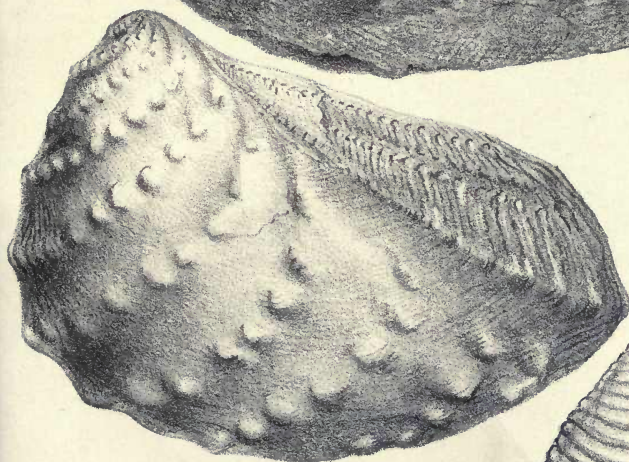


PLATE IV.

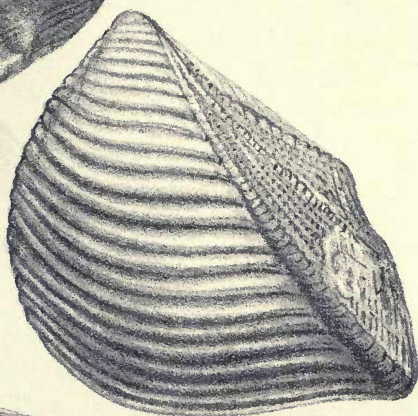
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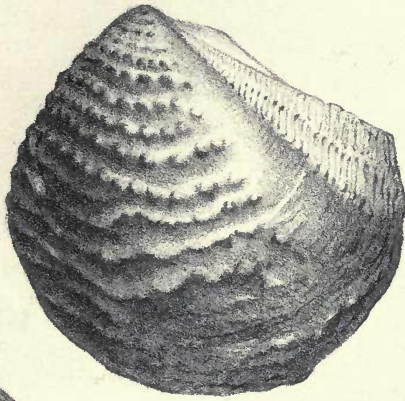


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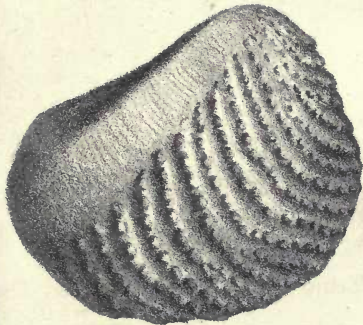


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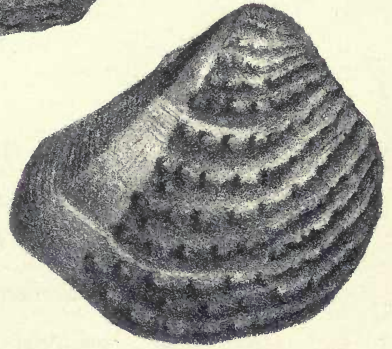
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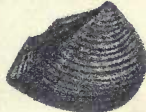
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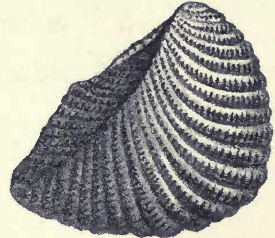
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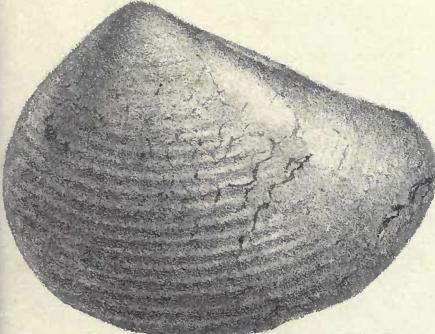
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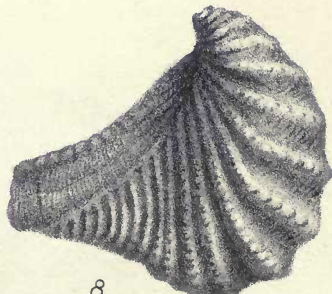
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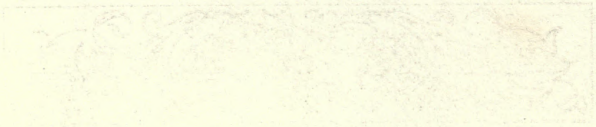
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By Order of the Board of Education

Secretary of the Board of Education



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and is entitled to
exercise the
rights and
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the Board of Education
of the City of New York
from the date of his
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Board of Education
until the expiration
of his term of
office.

Witness my hand and the seal of the Board of Education
this 1st day of January, 1901.



On a Series of Sinistral Gasteropods from Somerset and Dorset

By Prof. JAMES BUCKMAN, F.G.S., F.L.S., &c.

FOSSIL GASTEROPODA are now familiar to the worker in the Inferior Oolite from the fine specimens of these usually-called Univalve shells recently obtained from Bradford Abbas, Half Way House, Coker, and other localities both in Dorset and Somerset.

Like most of the recent examples of Univalves, the fossil shells are generally dextral or right handed; but we have now the pleasure of introducing to the notice of our Field Club a fine series of sinistral shells of this class.

Both recent and fossil examples of sinistral shells occur, but they are not common, neither abounding in species nor specimens.

Five doubtful species are introduced from the Inferior Oolite of Dorset and Somerset, which are cited as follows:—

1. Cirrus Leachi, *Sow.*, *M. C.*, t. 219, f. 3.
2. „ nodosus, *Sow.*, *M. C.*, t. 219, f. 2-4.
3. „ intermedius, *Buck.*, see plate, f. 4.
5. „ pyramidalis, *Tawney.*
5. „ calisto, *D'Orbig, Ter., Jur.*, pl. 332, f. 10.

These specimens, presently to be described, have been figured as well as their imperfect condition will allow, and we may here

mention that the specimen for which I have ventured to propose the name of *Cirrus intermedius*, is figured by Sowerby under the name *Cirrus nodosus*, with the following remarks:—

Dr. Leach, at present so well known for his extensive researches into natural history, some years since presented me with this specimen, picked up near Yeovil. It is a reverse shell, and seems to have been gregarious; two were here crowded together; there were signs of ammonites in the mass. It has had apparently a very acuminate spire, seven turns of which remain, and the space above for as many more, according to the general proportions.”*

I shall presently describe the forms met with, but it will perhaps be well to first point out their position.

The bed in which these Univalves occur is part of what we have named the Dorset Cephalopoda bed. It rests upon the sands at Bradford Abbas, Half Way House, and at East Coker, near Yeovil. The reversed Univalves are not common to the two first places, but occur abundantly at Coker with other Univalves. They are not well preserved at Coker, and hence we are on the look out for better preserved specimens before definitively determining the species.

The section of Bradford Abbas (East Hill) quarry.

1 Soil	0 4	} Trigonion Grit of Buckman, Geol. of Cheltenham.
2 White Oolite with irregular cleavage	6 0	
3 Band of Marl with Astarte Lima and Ter. Morieri	0 3	
4 Hard Ironshot Rock with Ammonites Belemnites, &c.	1 0	} Cephalopoda bed Gryphite Grit of Buckman Geology of Cheltenham.
5 Band of Brownish Stone full of Univalves and Ammonites	0 6	
6 Ironshot Oolite full of Cephalopods.....	1 0	
7 Marl with Opis trigonalis	0 3	
8 Bed with Ammonites aalensis "Dew bed"	0 9	
9 Blue centred Oolite	1 2	
10 Sands—lower freestone system of the Cottswolds		

The specimens then occur in that highly fossiliferous stratum which has yielded such a rich fauna to the well plied hammers of our local geologists.

It is, however, at Coker that these reversed shells so greatly

* Sowerby's Mineral Conchology, vol. 2, p. 94.

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PLATE.

<i>Fig.</i>		<i>Page.</i>
1 and 2.	Cirrus Leachi.....	137
1 <i>a</i>	„ „	137
3 and 3 <i>a</i>	„ nodosus	137
4 and 4 <i>a</i>	„ intermedius	138
5	„ pyramidalis	139
6 and 6 <i>a</i>	„ calisto.....	139



2



1a



1



3



4



5



3a



4a



6



6a

abound, while they have only been met with sparingly at Half Way House and Bradford Abbas.

These sinistral examples from Coker are accompanied by a large series of dextral univalves, which are common at Bradford, such as species of *Amberlyia*, *Pleurotomaria*, *Turbo*, and others, whilst the bivalves can all be referred to our Dorsetshire sections.

DESCRIPTION OF SINISTRAL SHELLS.

CIRRUS LEACHI, *Plate of Sinistral Shells*, f. 1 and 2.

„ LEACHI, *Miller's M.S.S.*

Shell conical, longitudinally striated, whorls many, with several rows of tubercles crossed by numerous small carina; upper row of tubercles spiniform, compressed.*

The lower whorl of this shell, though larger than the spire whorls, has not that disproportion which occurs in the *C. nodosus*. The spire consists of six whorls, in which it differs from *C. intermedius*, which has as many as nine upper whorls, forming an acute spire upon only a slightly enlarged lower whorl.

This fossil occurs occasionally at Bradford Abbas, but is somewhat common at Coker, near Yeovil. Sometimes it has long spiniform tubercles as figured by Sowerby, but we have not met with a specimen with the spines so pronounced. Fig. 1a, probably has the spines a little worn.

CIRRUS NODOSUS, pl. f 3 and 3a.

Shell conical, acuminate, or discoid with an acuminate spiral umbo: spire reversed; whorls many; with two rows of longitudinally extended tubercles, crossed by numerous small carinae.†

This shell has a squat spire of about six whorls proceeding from a much enlarged outer whorl a character which, when united with the extended tubercles reaching down the sides from

* See Sowerby's *Min. Conch.*, vol. 3, p. 36.

† *Ibid*, vol. 3, p. 35.

the top to the under part of the base, will readily distinguish this from all other forms.

This is the most abundant form even at Coker, where a band of the cephalopoda bed is for the most composed of these sinistral shells. It is met with at Bradford Abbas, Half Way House, Dundry, always in the same horizon in both Dorset and Somerset, but we have never met with any of these sinistral shells in Gloucestershire.

CIRRUS INTERMEDIUS, *Buckman*, pl., fig. 4 and 4a.

„ NODOSUS, *Sow. M. C.*, t. 141, f. 2.

Acutely conical, spire reversed, with two obscure transverse carinæ, upon which are numerous longitudinally extended tubercles; aperture orbicular.*

In this shell the spire is more symmetrical than in the other species. The lower whorl is scarcely out of proportion to the others. Sowerby, in describing this form, says:—"There are two rows of tubercles on each whorl, formed by the intersection of transverse and longitudinal ridges, the upper row is largest, and the other is inconspicuous. The aperture seems from the cast to have been somewhat plaited."

Dr. Leach some years since presented me with this specimen, picked up near Yeovil: it is a reverse shell, and seems to have been gregarious: two were here crowded together: there were signs of ammonites in the mass. It had apparently a very acuminate spire, seven turns of which remain, and space above for as many more, according to the general proportions.†

The acutely spiral form of this shell, so different from the *C. nodosus*, f. 3 and 3a, would seem to be sufficient to separate this from the later named *C. nodosus*, *M. C.*, pl. 219, fig. 4. The flat spire of our figs. 3 and 3b, when compared with the elevated figs 4 and 4a, sufficiently points out the difference. If then figs. 4 and 4a be not distinct from figs. 3 and 3a, they are more nearly

* *Sow.*, *M. C.*, Vol. 2, p. 94.

† *Ibid*, Vol. 2, p. 94.

allied to f. 1 and 1a and 2, but they seem to be sufficiently distinguished in their more elevated symmetric spire and the smallness of the tubercules when compared with *C. Leachi*.

CIRRUS PYRAMIDALIS, pl., fig. 5.

„ TAWNEY, Proceedings of the Bristol Naturalists Society
new series, vol. 1, part 1, pl. 2, fig. 10, p. 37.

Shell acutely conical, whorls numerous, convex; a single slight keel or projecting ledge on the last whorl; the whorls are crossed by numerous rounded costæ, which are prominent above the keel, but become obliterated below. The whole surface of the shell is adorned with a granulation formed by the crossing of spiral and transverse dotted lines. The umbilicus is surrounded by faint radiating costæ. The base of the last whorl is convex, and has decussating lines, but the costæ do not extend immediately below the narrow keel; they reappear however around the umbilicus.*

Mr. Tawney speaks of three specimens from Dundry as being in the Bristol Museum. We have a single specimen from Coker. Any way it is a very rare shell, but we fancy it bears evidence of there being still more species than we know of.

CIRRUS CALISTO, pl., figs. 6 and 6a. TURBO CALISTO, *D'Orbigny*,
Ter Jur., pl. 332, figs. 9 and 10.

This shell is described by D'Orbigny as follows:—

T. testâ conicâ, subumbilicatâ; spirâ senestrâ; anfractibus convexis, angulosis, longitudinaliter costulatis infernâ nodosis; aperturâ rotundatâ.†

We have two portions of this shell, both from Coker; it is evidently very rare, but can readily be distinguished by its

* See Tawney's Paper before cited.

† D'Orbigny's *Tur. Jur.* Tome second, p. 345.

regular spire of few volutions, and the longitudinal lines at the base of the shell.

These then are all the forms that have yet been observed in our interesting oolite bed, but I am not without hope that others will yield themselves captive under pressure of the hammers of the Dorset Club.





On the *Belemnites* Montefiorei.

By Prof. JAMES BUCKMAN, F.G.S., F.L.S., &c.

THE specimen from which our drawing is taken was obtained from the Lower Lias Shales of the sea-coast between Charmouth and Lyme Regis. It has long been a classic spot, dear to the geologist as Dr. Buckland had described some most interesting fossils from Lyme, more especially of Saurians, Belemnites, and Ammonites.

Since then the fine coast section extending from Bridport to Charmouth and on to Lyme has yielded some fine fossils to a host of workers, but to none more liberally than to the Rev. T. Law Montefiore, of Charmouth, whose house, when visited by our Field Club in October of last year (1879), was literally crammed with some of the choicest geological treasures of the Lias formation, which were descanted upon and explained by Mr. Montefiore in a manner which showed that he had made a loving acquaintance with them.

Here were exhibited Saurians from their toothless babyhood to huge monsters very many feet in length, whilst Fishes, Crustaceans, and Ammonites were in boundless profusion, and so perfect in form and outline that no one could doubt but that they had been alive.

Amongst the treasures so kindly exhibited, and explained at this memorable meeting were some examples of Belemnites,

Cuttles, &c., and it is to the remains of a creature as it were compounded of the elements of both of these that I now direct attention.

The plate on the opposite page represents one of these from near Charmouth, which I had some time previously obtained. The original is nearly twelve inches in length. It is surmounted by ten rows of dark black spines, four double rows = 8 are $1\frac{1}{4}$ in. long, while two are 2 in. (see drawing, f. 1). The hooks are smooth, and of a dark black colour, some of them are as much as two lines in length, and all of them being more or less curved.

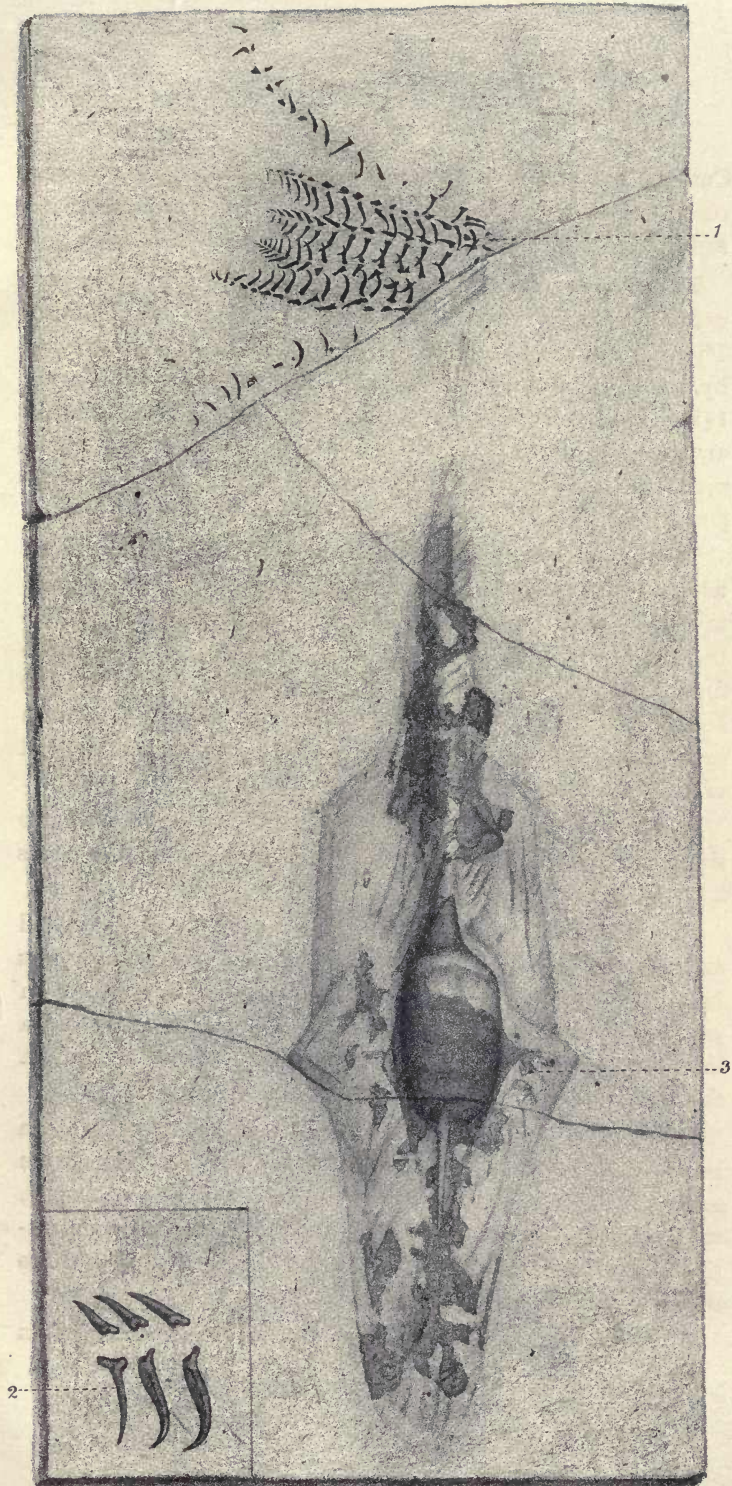
These hooks were doubtless attached to the arms of the animal which were prehensile organs, probably to enable the creature to hold on to the saurians and fishes of the period; woe betide them, however, if they did not hold on tightly, as the cuttles formed no inconsiderable portion of the food—especially of the *Ichthyosaurus*—as is evidenced from the fact that the *Coprolites* or fossilized fæces, and also the *injesta* of their stomachs are full of these horny hooks.

It will be seen that these rows of hooks are inclined to one side, no doubt arising from the contortion of the soft parts forming the neck.

The next point, we would observe, is that of the dark elevated mass below (fig. 3), this is the ink-bag, and this consists of a bag of fossilized sepia—pure Indian ink—so fine in tone that on being ground down and used as a pigment with water and a little gum arabic, it makes a sepia picture, compared with which the modern Indian ink is little better than writing ink.

This ink bag, with its tube, is $3\frac{1}{2}$ inches long, and there can be no doubt but that this once was the black fluid which the squids had the power of ejecting when pursued by an enemy, thus making the water so cloudy that the otherwise comparatively defenceless creature made its escape from its formidable enemy in the “blackness of darkness.”

Below the ink-bag is seen a small pointed projection, $\frac{3}{4}$ of an



inch in length; this represents the phragmacone of the true Belemnite.

Here then we seem to have the remains of a most interesting creature connecting the Belemnite of the past, a fossil sepiaceous animal now extinct with the modern Calamary.

A *Belemnoteuthis antiquus* was figured by Dr. S. P. Woodward from a specimen in the cabinet of Mr. William Cunningham, this is called *B. antiquus*, and was obtained from the Oxford Clay, near Chippenham. Our specimen, however, is from the Lias, and is, therefore, much older. Mr. Montefiore possesses some fine remains of this fossil, and on this account, and also in recognition of his hearty reception, and kindly conveyed information to the Club, I have had the pleasure of associating this species with his name.

The *Belemnoteuthis Montefiorei* may then be characterised as a fine fossil form derived from the Lower Lias Shales of the county of Dorset.



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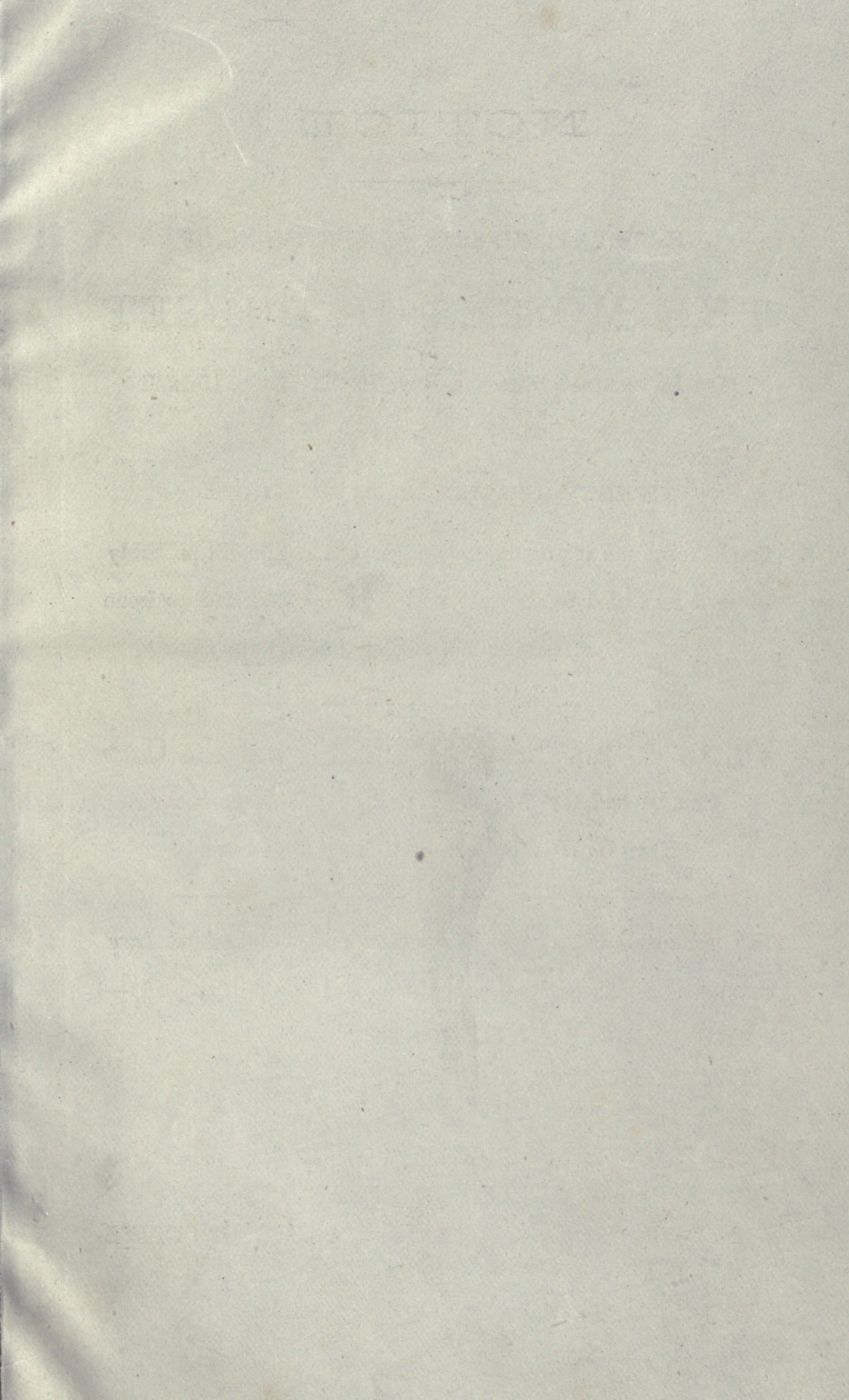
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THE DODDER.

ON UMBELLATE PLANTS.

ON THE ENNOBLING OF BEETS.

ON THE CEPHALOPODA BED AND THE OOLITE
SANDS OF DORSET AND PART OF DEVON.



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